

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Commissioner of Conservation

AND

The State Forester and Director of Parks

FOR THE

YEAR ENDING NOVEMBER 30, 1937

MASS.: DEPARTMENT OF CONSERVATION

[OFFICES: 20 SOMERSET STREET, BOSTON, MASS.]



11 1938
The Commonwealth of Massachusetts

OUTLINE OF THE

REPORT OF THE DEPARTMENT OF CONSERVATION

For convenience and economy this report is divided as follows:

- Part I.—The organization and general work of the Department of Conservation.
Part II.—The Division of Forestry.
Part III.—The Division of Parks.
Part IV.—The Division of Fisheries and Game. (Part IV is printed separately as Public Document No. 25.)

PART I

ANNUAL REPORT OF THE COMMISSIONER OF CONSERVATION

The thirty-fourth annual report of the Commissioner of Conservation is hereby submitted in compliance with Section 32 of Chapter 30 of the General Laws, Tercentenary Edition.

ORGANIZATION OF THE DEPARTMENT OF CONSERVATION

ERNEST J. DEAN, *Commissioner*

HERBERT W. URQUHART, *Conservation Department Secretary*

Division of Forestry

ERNEST J. DEAN, *State Forester*

RAYMOND J. KENNEY, *Assistant to the State Forester*

HAROLD O. COOK, *Chief Forester*

FRANK L. HAYNES, *Forester, Land Purchase and Surveys*

D. C. A. GALARNEAU, *Forester in Western Massachusetts*

FRANK J. SARGENT, *Forester, State Nurseries*

JAMES A. HANLON, *Forester*

MAXWELL C. HUTCHINS, *State Fire Warden*

JOHN P. CROWE, *Supervising Fire Warden*

HARRY B. RAMSEY, *Chief Moth Suppressor*

JOHN P. GIBLIN, *Construction Foreman*

ARTHUR L. STUART, *Repair Shop Foreman*

ELIZABETH HUBBARD, *Head Clerk*

BARBARA E. ROWLAND, *Principal Clerk and Secretary to Commissioner*

District Fire Wardens

1. Lincoln Crowell, Sandwich
2. William Day, Wareham
3. John H. Montle, Fall River
4. James E. Moloy, Woburn
5. Joseph L. Peabody, Winchendon
6. Frederick R. Stone, South Sudbury
7. Charles L. Woodman, Oxford
8. Raymond T. O'Connor,* Westfield
9. Verne J. Fitzroy, Shelburne Falls

*Acting.

Division Moth Suppressors

1. Walter F. Holmes, Buzzards Bay
2. Clarence W. Parkhurst, Wrentham
3. Michael H. Donovan, Beverly
4. John E. O'Doherty, Stoneham
5. Frederick W. Marshall, Wellesley
6. Harold L. Ramsey, Auburn
7. Grover C. Twiss, Holyoke

Division of Parks

ERNEST J. DEAN, *Director Ex Officio*

EGBERT HANS, *Landscape Architect*

ARNOLD E. HOWARD, *Park Engineer*

FRANK W. MORTON, *Park Architect*

CARL H. LYDIARD, *Park Superintendent*

JOHN P. GAFFNEY, *Park Superintendent*

*Division of Fisheries and Game*PATRICK W. HEHIR, *Director*CARL G. BATES, *Chief Conservation Officer*JOSEPH A. HAGAR, *Ornithologist*

(Complete organization and report in Public Document No. 25)

*Bureau of Marine Fisheries*BERNARD J. SHERIDAN, *Supervisor*EARNEST W. BARNES, *Biologist**Fish Inspection*WILLIAM D. DESMOND, *State Inspector of Fish*

(Complete organization and report in Public Document No. 25)

The statistics concerning forestry, forest nurseries, forest fire fighting and prevention, land acquisition, gypsy moth and pest control, the Division of Parks, the Division of Fisheries and Game, including the Inspection of Fish, Marine Fisheries, CCC camps of the United States Department of the Interior and the Department of Agriculture, cover the work of the fiscal year ending November 30, 1937.

Notwithstanding the limited appropriations for the work of the Forestry Division every effort has been made to arrange a program that would secure the best results possible with the available funds. It was necessary that the personnel assume more and in some instances new duties as in every division of the Department there were increased activities.

It was hoped that the acquisition of land in many of the State Forest areas could have continued this year but lack of appropriations compelled the cessation of plans for rounding out the present forest areas. Provisions should be made for continuing in some degree the acquisition of private holdings within the boundaries of many of the State forest areas.

The Division of Forestry endeavors to administer approximately 175,000 acres of State forest land with a very limited personnel. It protects the forests from forest fires; it makes every effort to fight forest pests and diseases and provides recreational facilities within the forests where picnicking, fishing and bathing may be enjoyed. In this connection, fuel must be provided for the fireplaces, collections made for the use of tables and fireplaces, parking areas supervised and the recreational areas must be maintained in a clean and orderly manner. Life guards should without question be provided for all areas where bathing is permitted, and sufficient supervision of other facilities should be maintained.

The Forestry Division provides the above mentioned facilities in 25 of the larger State forests, which include camping and trailer sites, log cabins, fireplaces, picnic tables, fishing, bathing beaches, bath houses, life guards, and toilets. In some of the areas provisions have been made for winter sports: ski trails, practice slopes, snow shoe trails, parking areas and shelters being provided.

Wildlife areas are maintained in many of the forests and with proper supervision should materially add to the supply of wild creatures which through one reason or another have been constantly diminishing in numbers for many years.

As was pointed out in the report of last year, Massachusetts has a population of about 4,250,000 and the greatest problem of the Department is that of providing accessible recreational spaces for our citizens.

This year has again demonstrated the increasing interest in the recreational possibilities within the State forests. At many of the forests we have been unable to care for those desiring to take advantage of the picnic areas, bathing beaches, etc., as neither the parking spaces nor the personnel in charge of the individual forests were adequate to meet the demand.

The present facilities at the Salisbury Beach Reservation are inadequate to care for the thousands who desire to use this beach. The Department has made every effort to hasten the completion of additional parking areas, temporary bath-houses, comfort stations, and trailer camps to care for the constantly increasing number of visitors. This situation will be covered in detail later in this report.

The General Court of 1936 enacted legislation which should allow increased activities within the Division of Fisheries and Game. This Division is charged

with the management of the wildlife resources of the Commonwealth, not only that wild life which furnishes sport for the hunter and fisherman but the insectivorous and song birds, mammals and shell fish. The Division has added to the capacity of its game farms and hatcheries by the WPA and as a result of the salvage of material from abandoned CCC camps. Complete details are available in Part IV of this report printed as a separate public document No. 25.

The past few years have developed greatly increased interest in all conservation matters, due primarily to the establishment of the CCC and the resulting activities. Forest planting, silvicultural work, road building, the construction of fishing ponds, rearing pools, dams, bathing beaches, moth work and clearing slash have relieved the Commonwealth of much expense and resulted in the completion of many projects that would otherwise of necessity have been left undone. This is especially noticeable in the winter sports development and the public interest displayed in this connection demonstrates that no longer is it necessary for our citizens to journey to other states for this type of recreation.

The increased demand coming to the Department from all over the United States and foreign countries for copies of our Recreation Directory is conclusive evidence that Massachusetts should not fail to make provision for the entertainment of the horde of visitors who desire to spend their vacations in the forests or on the lakes and streams of our Commonwealth.

In order that the public may be kept informed as to the program of the Department, the Conservation Department Bulletin has been continued and a constantly increasing demand for this publication has been noted. The few motion picture reels and lantern slides possessed by the Department have been loaned to many organizations and should be added to as funds permit.

DEPARTMENT ADMINISTRATION

Fortunately, during the year it was unnecessary to make many changes in the administrative forces. District Fire Warden Albert R. Ordway of Westfield, after 24 years in the service, was retired by the Commissioner with the approval of the Governor under the Veterans Retirement Act and Raymond T. O'Connor of Westfield was appointed Acting District Warden.

On September 14, Division Superintendent Harry B. Ramsey was appointed to the position of Chief Moth Suppressor, filling the vacancy caused by the death, on October 26, 1936, of George A. Smith.

Due to the retirement of Division Moth Superintendent John J. Fitzgerald and the promotion of Mr. Ramsey, it became necessary to appoint two division men.

Subsequent to a Civil Service examination, Mr. John E. O'Doherty was appointed Division Moth Superintendent on October 21, and assigned to Division No. 4. On the same date, Harold L. Ramsey was appointed Division Moth Superintendent, in charge of Division No. 6.

Early in the year changes were made in the assignment of forests for administrative purposes. A more equitable arrangement of supervision has resulted. Thirty-three forests are now being administered by 15 forest supervisors and the remainder by the 8 district fire wardens.

A marked change has been noted in the forest fire service as a result of administrative changes of last year. This service, under the direction of Maxwell C. Hutchins, Chief Fire Warden, is better equipped than heretofore to cope with the forest fire situation throughout the Commonwealth, additional equipment having been added and additional field inspection work carried on.

Architectural and Engineering Supervision

On October 18, Mr. Egbert Hans was appointed to the position of landscape architect. His previous connection with the National Park Service and its work in Massachusetts provides him with a wealth of experience regarding departmental landscape problems.

Mr. Arnold E. Howard, on October 18, assumed the duties of Department Engineer and Frank W. Morton those of Architect.

The establishment of a central design office within the Department by the National Park Service on October 18 with an engineer and two draftsmen will

facilitate the institution and fulfillment of projects on our State forests, parks and reservations.

It is felt that the Department will be better able to serve the citizens of the Commonwealth as a result of the above addition to the personnel.

LECTURES

The administrative staff of the Department has continued to carry on the lecture and speaking engagement program as in previous years.

A course of lectures on Conservation Law was given by one of the staff in the Wildlife Management course of the Stockbridge School of Agriculture at the Massachusetts State College.

Increased demands were made on the Commissioner and the Chief Forester to speak at various gatherings throughout the State.

EXHIBITIONS

The Department through its Division of Fisheries and Game conducted an exhibit at the Sportsmen's Show in January.

During the month of March two exhibits of the work were displayed; the one at the Spring Flower Show of the Massachusetts Horticultural Society showing recreational development in State forests and State parks was a source of considerable interest. This exhibit was created and constructed by District Fire Warden Fred R. Stone and Egbert Hans, Landscape Architect of the National Park Service, aided by their capable assistants.

At the Fourth Annual Recreation Conference held at the Massachusetts State College, an exhibit was arranged by D. C. A. Galarneau, Forester in charge of the Springfield district, showing recreational developments in State forests. With this was an exhibit showing the work of the Division of Fisheries and Game under the supervision of Mr. O. C. Bourne.

At the Brockton Fair an exhibit, depicting a typical State forest with recreational facilities including a flowing brook, was presented. Mr. Egbert Hans, Landscape Architect, designed the exhibit. District Fire Warden Fred R. Stone, with his men, performed the construction work. The Division of Fisheries and Game supplied trout for this exhibit.

At the Eastern States Exposition, Forester D. C. A. Galarneau designed the exhibit in which various activities of the Division of Forestry were shown. Forest nursery work, reforestation, recreation, moth control and fire prevention were included in this display.

The Division of Fisheries and Game, under the direction of Mr. O. C. Bourne, presented as part of this exhibit, a model trout hatchery as well as live game birds and fish.

LAND ACQUISITION

During the past year but a comparatively small amount of land has been acquired under either the State Forest or State Park acts, owing to lack of appropriations.

Of the area acquired, comprising 3,222 acres, 2,880 acres were for State forests and 342 for State parks, the major portion in both being land given to the State.

Of these gifts, the largest constitutes the present Willowdale State Forest of 1,902 acres situated in the towns of Ipswich and Topsfield, donated by Bradley W. Palmer of Boston. It represents, on the donor's part, the acquisition over a long period of years, of more than 100 parcels of land at a cost in excess of \$100,000.

There are, within the two tracts lying on both sides of the Newburyport Turnpike, many fine stands of both coniferous and hardwood trees and the general composition of the main area is such as to favor its use as a sanctuary for all useful wild life, in keeping with Mr. Palmer's wishes.

Another donation for State forest purposes was made during the past year by The Laurel Hill Association of Stockbridge consisting of 32 acres in Stockbridge adjoining the boundary of the Beartown State Forest and now being a part of that forest. The main purpose for conveying this property was to make possible the completion of a new ski trail on land owned by the Commonwealth and the cooperation of the Association in furthering this desired objective is much appreciated.

A gift of about 10 acres on the shore of the Lower Goshen Reservoir in the D. A. R. State Forest in Goshen was made by Rev. Henry Goodwin Smith thereby establishing a better permanent boundary along a part of the Reservoir and making available additional land for public use at that point.

The main purchase for State forest purposes was that of 125 acres in Brimfield and Monson considered necessary to protect the interests of the Commonwealth in the new Dingley Dell Pond and recreational area in the Brimfield State Forest. The area acquired by this purchase will, when certain improvements have been made, materially enhance the uses and attractiveness of the Dingley Dell section for public recreation.

Under the State Park act there was donated to the Commonwealth by Mr. John C. Robinson of Springfield, 315 acres of additional land situated in Agawam, West Springfield and Westfield. This addition brings the total area up to approximately 1,000 acres that Mr. Robinson has given to the State comprising the present Robinson State Park. The value of such an area located so near to large centers of population can be readily appreciated and its possibilities for use for recreation will, no doubt, be more and more appreciated in the future by the public.

The only purchases under the Park act were made at Salisbury Beach where five transfers, comprising 16 acres, were added to the main area. The time within which the purchase appropriation was available for that area expired on August 15, 1937.

Our records indicate that the Salisbury Beach Reservation now constitutes the largest of its kind in the State, having an area of 520 acres bordering for nearly 3.5 miles on the ocean, .8 miles on the Merrimack River and 1.5 miles on Black Rocks Creek.

Owing to lack of appropriation, it has been necessary to reduce the amount of boundary survey work and for most of the year but one crew instead of the usual three has been functioning.

A transit survey of the boundaries of the entire Robinson State Park area has been completed and the corners are defined by cement bounds.

There is a considerable amount of boundary survey work that should be done and it is desirable to make during the coming year a complete survey and marking of the boundaries of the Willowdale State Forest also.

During the past year new table maps for all of the forest fire observation towers were completed for use during the fire season and much other map work undertaken. Of the usual force of three draftsmen, one has been assigned to special work in the field until next spring.

Owing to lack of funds with which to continue purchases of land for State forests, a large number of options on hand for additional land in various parts of the State involving many hundreds of acres have all expired.

Land Acquired for State Forests, Fiscal Year 1937

<i>Forest</i>	<i>Location</i>	<i>Acres</i>
Beartown	Stockbridge	32.
Boxford	North Andover	114.
Brimfield	Brimfield and Monson	125.
D. A. R.	Goshen	15.15
Franklin	Franklin	25.
Freetown-Fall River	Fall River	29.3
Great Barrington	Great Barrington	18.
Lowell-Dracut	Dracut	2.13
Middlefield	Middlefield	436.865
Shawme	Bourne	44.333
Warwick	Warwick	50.
Willowdale	Ipswich and Topsfield	1,902.65
Wrentham	Wrentham	51.
Harold Parker	Andover, North Andover, Middleton	35.02
		<hr/> 2,880.528

Land Acquired for State Parks and Reservations, Fiscal Year 1937

Name	Location	Acres
Roland C. Nickerson State Forest Park	Brewster	4.
Robinson State Park	Agawam	315.7
Salisbury Beach Reservation	Salisbury, 2 house lots	plus 22.8

STATE NURSERIES

In addition to the substantial improvement program instituted in the several nurseries which was conducted by the Department personnel in addition to their regular duties, the output of trees shows an increase over 1936 of approximately 204,000, also an increase of 600,000 in seedlings transplanted.

Salvaged material from abandoned CCC camps was used in the construction of necessary buildings at the Amherst Nursery, thereby providing workshop and storage facilities, garage space for three cars together with a long needed storage cellar which in itself will add to the efficient handling of tree shipments by greatly reducing the annual loss occasioned by uneven temperatures and drying out, also providing for a seed extracting unit.

A marked reduction in the net cost of the operations at the Clinton Nursery should result from the installation of a water system. Complete details of this and other nursery activities will be found later in this report.

Intensive effort must and will be given to the rehabilitation of soil properties in the nurseries. As a result of nursery activities over a long period of years much of the valuable top soil has been lost and immediate restoration measures must be taken, soil treatment started and new planting areas prepared; thus, the older plots will be allowed to rest until soil rehabilitation can have effect.

Experimentation is being continued at forest nurseries which, it is hoped, will allow the Department to eventually supply desirable planting stock to be used in the establishment of hardwood stands.

A steadily increasing interest and demand for forest seedlings would indicate the necessity for increasing the output, but the maintenance of a reforestation program on the State forests alone can well justify a substantial increase in this production.

In line with the policy established last year, designed to protect privately-owned nurseries and to comply with the General Laws, every effort has been made to confine the sale of nursery products to reforestation work and to prevent the use of forest seedlings for ornamental purposes.

WORKS PROGRESS ADMINISTRATION PROJECTS ON STATE FORESTS

During the fiscal year WPA projects totaling \$139,342.20 of Federal funds for projects on State forest areas have been submitted.

Projects to the amount of \$112,304.20 received approval; the remaining \$27,038 representing two projects, is awaiting Federal approval.

Forest road construction, fire lanes, water-hole construction, planting operations, timber stand improvement, construction of small bridges, culverts, tool houses, garages, etc., were included in the several work projects.

In addition to the above, other projects have been prepared which are being held in abeyance until appropriations are available to care for the sponsor's contribution.

FOREST POLICY

In line with the general plan for the efficient operation of the Department, a plan has been prepared for the utilization of forest products with particular reference to CCC operations. By the practical application of this policy the forest supervision and administrative officials at headquarters are now able to maintain an accurate check on the products of each forest.

The utilization policy goes farther than the cutting of a tree into the highest

grade forest products and into the greatest volume obtainable. It covers the complete use of forest products piled or yarded in the forest.

In part it provides that procurement of any forest products for CCC camps shall be the result of silvicultural operations carried on in accordance with the standards adopted by the Commonwealth; these standards will prevent the future clear cutting, roadside thinning and clean-up primarily for the procurement of forest products.

Some of the phases covered by the plan are as follows:

- I. Ownership of Forest Products:
 - a. Requisition of forest products by the Army and by the Work Agency.
 - b. Selection of fuel wood.
- II. Utilization.
- III. Manufacture of Forest Products:

a. Felling and cutting into lengths.	d. Stump heights.
b. Trimming.	e. Piling of fuel wood.
c. Splitting of cordwood.	f. Disposal of slash.
- IV. Yarding of Forest Products:
 - a. Fuel Wood.
 1. Wood to be sold by the Commonwealth.
 2. Wood for Army.
 - b. Yarding of Saw Logs.
- V. Location of Sled Roads.
- VII. Scaling and Scale Records.
- VI. Inspection.
- VIII. Cooperation.

FOREST PRODUCTS INDUSTRIES

By authority of the General Laws, Chapter 21, Section 5, the State Forester is empowered to promote the perpetuation, extension and proper management of the public and private forest lands of the Commonwealth and may, under Chapter 132, Section 6, give aid or advice in the management of forest lands to any person owning or controlling such land.

In order to fulfill our obligation to the owners of private woodlands in the Commonwealth and that we may better serve the wood-using industries in the State, a new activity has been instituted which should prove to be of valuable assistance to the timber grower and to industries utilizing forest products.

That we may have a complete record of available markets for forest products and also be able to furnish adequate information with reference to species and quantities used, to the end that the timber grower may better understand the business needs of the prospective purchaser of forest products, a survey of each county was started for the purpose of listing those engaged in the merchandising of forest products.

In this search for data that is, without doubt, more comprehensive than attempted in any previous survey, the Department is compiling a tabulation of timber operators, sawmill operators, fuel wood dealers, wholesale and retail lumber dealers together with the wood-using industries of the State.

To Forester F. Gilbert Hills, of the Department, has been assigned the field work connected with the survey and he has already completed the work in Berkshire and Franklin counties. Extreme interest and cooperation have attended the efforts of Mr. Hills during the interviews incidental to this survey.

The Department is indebted to Professor Robert P. Holdsworth and Assistant Professor J. Harry Rich of the Department of Forestry of the Massachusetts State College, also to A. C. Cline, Assistant Director of the Graduate School of Forestry of Harvard University for assistance rendered in preparation for the survey.

Results of the study will be published in separate pamphlets as rapidly as the work in each county is completed and at the completion of the work in all counties, the Department will publish a Forest Products Industries Directory covering the entire State.

It is intended, in addition to the Directory, to supply a monthly Market Report Service which will provide current market conditions, prices, etc., to the timber growers and wood-using industries of the Commonwealth.

It is the aim of the Department to administer the forest holdings of the Common-

wealth in a businesslike manner and to assist in every way possible those industries that are connected in any way with the utilization of forest products.

In dedicating our efforts to the true tenets of conservation, we shall constantly strive to conserve our forests, thus protecting and providing the source of the basic material which is the essential of all wood-using industries.

RECREATION IN STATE FORESTS

The summer of 1937 established a new record for the use of the State forest and State park recreational areas. In every area the facilities were used to capacity and many areas were inadequate to care for the people who desired to use them.

During the extremely hot summer weather the bathing ponds provided relief and recreation for thousands. A substantial increase in the number of campers and anglers, wishing to avail themselves of the recreational features of the State forest areas, was noted and based upon the experience of the past summer, plans will be made to increase the facilities wherever possible, particularly for bathing and camping.

Unfortunately the Department has been forced to maintain the recreational areas with modest appropriations and has been unable to carry a sufficient personnel to properly enforce the regulations, care for the visitors and maintain the regular forestry duties. Nevertheless every effort has been made to keep pace with the demands of the public; in this connection the Department is appreciative of the cooperation of the personnel assigned to recreational work who, in addition to the regular day's work, were forced in many cases to continue far into the evening during the summer recreational season.

The Division of Fisheries and Game cooperated in the stocking of available ponds and streams in the State forests this year as follows:

FOREST POND STOCKING—1937

Forest	Pond	Brook Trout 1 yr.	Trout 2 yr.	Brown Trout 2 yr.	Rainbow Trout 2 yr.	Total
Brimfield . . .	Deth Hill . . .	—	587	—	—	587
Brimfield . . .	Woodman . . .	500	—	1,000	—	1,500
Erving . . .	Laurel Lake . . .	1,000	—	—	1,000	2,000
Harold Parker . . .	Frye . . .	1,000	500	—	500	2,000
Harold Parker . . .	Berry . . .	—	—	—	500	500
Leominster . . .	Crow Hill . . .	1,000	1,000	—	—	2,000
Monroe . . .	Brown . . .	—	—	500	—	500
Myles Standish . . .	Barrett . . .	—	500	1,000	—	1,500
Otis . . .	Upper Spectacle . . .	—	500	—	—	500
Otter River . . .	Beaman . . .	500	—	—	—	500
Pittsfield . . .	Berry . . .	—	—	1,500	—	1,500
Sandisfield . . .	York . . .	—	500	1,500	2,500	4,500
Savoy Mountain . . .	North . . .	—	1,000	—	—	1,000
Spencer . . .	Howe . . .	1,000	1,000	—	—	2,000
Wendell . . .	Ruggles . . .	—	500	—	1,000	1,500
Warwick . . .	Rum Brook . . .	—	—	—	2,000	2,000
Nickerson Park . . .	Flax . . .	—	500	—	—	500
Nickerson Park . . .	Cliff . . .	—	500	—	500	1,000
Nickerson Park . . .	Little Cliff . . .	—	—	500	—	500
		5,000	7,087	6,000	8,000	26,087

FOREST STREAM STOCKING—1937

Forest	Stream	Brook Trout 1 yr.	Brown Trout 1 yr.	Rainbow Trout 1 yr.	Total
Beartown . . .	East Brook . . .	300	—	—	300
Beartown . . .	West Brook . . .	300	—	—	300
Erving . . .	Moss Brook . . .	500	—	—	500
D.A.R. . .	Rogers Brook . . .	500	—	—	500
Harold Parker . . .	Skug River . . .	400	—	—	400
Monroe . . .	Dunbar Brook . . .	1,000	—	—	1,000
October Mountain . . .	Washington Mountain Brook . . .	500	—	—	500
Otter River . . .	Priest Brook . . .	1,000	—	—	1,000
Savoy Mountain . . .	Cold River . . .	500	4,000	1,000	5,500
Savoy Mountain . . .	Tower Brook . . .	500	—	—	500
Savoy Mountain . . .	Centre Brook . . .	2,000	—	3,000	5,000
Spencer . . .	Seven Mile River . . .	1,000	—	—	1,000
Warwick . . .	Moss Brook . . .	500	—	—	500
Wendell . . .	Whetstone Brook . . .	400	—	—	400
Windsor . . .	Westfield River . . .	—	—	1,000	1,000
		9,400	4,000	5,000	18,400

The following orders signed by the Commissioner were issued relative to fishing:

In accordance with the provisions of Section 34 of Chapter 132 of the General Laws, I hereby prescribe the following regulations relative to the taking of fish from certain ponds within the State Forests:

Brimfield Forest—Deth Hill Pond, Woodman Pond.
 Harold Parker Forest—Berry Pond, Frye Pond.
 Leominster Forest—Crow Hill Pond.
 Myles Standish Forest—Barrett Pond.
 Otis Forest—Upper Spectacle Pond.
 Otter River Forest—Beaman Pond.
 Pittsfield Forest—Berry Pond.
 Sandisfield Forest—York Pond.
 Savoy Mountain Forest—North Pond.
 Spencer Forest—Howe Pond.
 Warwick Forest—Rum Brook Pond.
 Wendell Forest—Ruggles Pond.

In addition to the restrictions and provisions of Chapter 131 of the General Laws, I further provide that no fish shall be taken from the said ponds prior to May 1, 1937, and that the daily bag limit for trout shall be 5 fish per person.

A written permit must be obtained from the person in charge by all persons fishing in the following ponds:

Brimfield Forest—Deth Hill Pond, Woodman Pond.
 Harold Parker Forest—Berry Pond, Frye Pond.
 Leominster Forest—Crow Hill Pond.
 Otis Forest—Upper Spectacle Pond.
 Sandisfield Forest—York Pond.
 Savoy Mountain Forest—North Pond.
 Spencer Forest—Howe Pond.
 Wendell Forest—Ruggles Pond.

No boat, canoe, raft, or other floating device shall be allowed on any of the said ponds except as designated on the permit.

No motor boat or outboard motor shall be allowed on any of the said ponds.

Fly fishing only shall be permitted on the following ponds between the dates shown:

Brimfield Forest, Deth Hill Pond	May 1 to June 18
Harold Parker Forest, Frye Pond	May 1 to July 31
Leominster Forest, Crow Hill Pond	May 1 to July 31
Spencer Forest, Howe Pond	May 1 to July 31

After June 15, both bait and fly fishing shall be permitted on Deth Hill Pond.

The foregoing regulations will remain in effect until revoked by a similar order and supersede all outstanding regulations governing fishing in the above-named ponds.

Violation of any provision of these regulations is punishable by a fine of not more than twenty-five dollars.

March 29, 1937

The following order was issued relative to fishing:

In accordance with the provisions of Section 34 of Chapter 132 of the General Laws, I hereby prescribe the following regulations relative to the taking of fish from certain ponds within the State Forests:

Beartown Forest—Benedict Pond.
 Harold Parker Forest—Bradford Pond, Collins Pond, Field Pond, Salem Pond, Sudden Pond.
 October Mountain Forest—Felton Lake.

In addition to the restrictions and provisions of Chapter 131 of the General

Laws, I further provide that no fish shall be taken from the said ponds prior to July 1, 1937.

The daily bag limit and minimum length of all fish taken shall conform to the laws governing the taking of such fish with the following exceptions:

Horned Pout, daily bag limit to be 10.

Small Mouth Black Bass, daily bag limit to be 3.

Crappie, daily bag limit to be 6.

A written permit must be obtained by all persons fishing in the following ponds:

Harold Parker Forest, Collins Pond, Field Pond, Salem Pond.

October Mountain Forest, Felton Lake.

No boat, canoe, raft, or other floating device shall be allowed on any of the said ponds except as designated on the permit.

No motor boat or outboard motor shall be allowed on any of the said ponds.

The foregoing regulations will remain in effect until revoked by a similar order and supersede all outstanding regulations governing fishing in the above-named ponds.

Violation of any provision of these regulations is punishable by a fine of not more than twenty-five dollars.

March 29, 1937.

RESULTS OF FISHING ON STATE FOREST PONDS

May 1—July 31, 1937

Forest	Pond	Number of Permits Issued	Trout Taken	Average Length (inches)
Brimfield . . .	Deth Hill . . .	2,170	1,119	8
Brimfield . . .	Woodman . . .	—	—	—
Harold Parker ¹ . . .	Berry . . .	3,914	200	9
Harold Parker . . .	Frye . . .	—	1,346	—
Leominster . . .	Crow Hill . . .	2,717	1,370	10
Myles Standish . . .	Barrett . . .	322	180	—
Otis ² . . .	Upper Spectacle . . .	2,338	243	—
Sandisfield . . .	York . . .	3,929	3,590	—
Savoy Mountain ³ . . .	North . . .	830	443	9½
Spencer . . .	Howe . . .	1,976	1,235	9
Wendell ⁴ . . .	Ruggles . . .	700	297	10

¹ Other Fish: 11 pickerel.

² Other Fish: 777 pickerel, 5,355 bullheads.

³ Other Fish: 658 perch, 70 bullheads.

⁴ Other Fish: 3,857 bullheads.

As the State forests provide the only public hunting grounds where the sportsmen are free to go and as the Civilian Conservation Corps was operating on many of the areas it was deemed expedient to continue the permit system to the end that forest supervisors and camp superintendents be advised as to the number of hunters in a given area; also that the hunter might be informed of the work areas and exercise the caution necessary. Permits issued covered a six-day period.

All wildlife areas were conspicuously posted and remained closed to hunting and trapping.

The following order was issued:

In accordance with the provisions of Section 34 of Chapter 132 of the General Laws, Ter. Ed., I herewith prescribe the following regulations relative to hunting and the discharge of firearms on the State forest lands listed below:

*Beartown, Boxford, *Brimfield, Chexter, Douglas, *Erving, Georgetown-Rowley, Harold Parker, *Myles Standish, Northfield, *October Mountain, *Pittsfield, *Savoy Mountain, *Townsend, Upton, Wendell.

NOTES*

A permit must be obtained from the CCC camp superintendent or forest superintendent in charge before going into the forest to hunt, and the holder thereof shall comply with its terms.

The permit shall be made out in the name of the person requesting it and shall be non-transferable.

All permits shall be good during the entire week in which they are issued, and shall be returned to the place of issue within 48 hours of the time of expiration thereof, with the number and species of all birds or mammals taken endorsed thereon.

I further prescribe that all hunting and the discharge of firearms shall be prohibited on the following State forest lands: Lowell-Dracut, Lowell, Dracut; Arthur Warton Swann, Monterey.

The foregoing regulations shall remain in full force and effect until revoked by a similar order and shall supersede all outstanding regulations governing hunting on the State forest lands.

Violation of any provision of these regulations is punishable by a fine of not more than twenty-five dollars.

October 4, 1937.

The following order was issued regulating trapping on State forest lands:

In accordance with the provisions of Section 34 of Chapter 132 of the General Laws, Ter. Ed., I hereby prescribe the following regulations relative to trapping on the State forest lands.

A permit to trap must be obtained from the Department of Conservation, the endorsement to which must be given by the forest superintendent in charge of the area to be trapped before being valid.

One permit may be issued for each 2,500 acres of trapping territory and shall be made out in the name of the person requesting it. The permit shall be non-transferable.

Trapping will be allowed only on those portions of the forests which lie within the limits of the towns which have voted to suspend the anti-steel trap law.

Trapping will not be allowed on the areas set aside as wildlife refuges.

The trapping of muskrats is forbidden.

The holder of the permit must return same to the forest superintendent by mail or in person within 48 hours after the close of the season, and the number and kind of mammals trapped shall be noted thereon.

The foregoing regulations shall remain in full force and effect until revoked by a similar order and shall supersede all outstanding regulations concerning trapping by permit on the State forest lands.

Violation of any provision of these regulations is punishable by a fine of not more than twenty-five dollars.

October 4, 1937.

PARKS AND RECREATION

Because of the nature and location of the State parks it was found necessary to restrict hunting; accordingly the following order was issued on October 1, 1937:

In accordance with the provisions of Section 7, Chapter 132A of the General Laws, Ter. Ed., I herewith prescribe that all hunting and the discharge of firearms shall be prohibited on the following State parks and reservation: Robinson State Park, Agawam, Westfield, West Springfield; Roland C. Nickerson State Forest Park, Brewster; and the Standish Monument Reservation, Duxbury.

The foregoing regulation shall remain in full force and effect until revoked by a similar order and shall supersede all outstanding regulations governing hunting and the discharge of firearms on these areas.

Whoever violates any provision of this order shall be punished by a fine of not more than twenty dollars.

October 1, 1937.

WINTER SPORTS IN STATE FORESTS

To provide for the public enjoyment of the winter sports areas, the Department has made every effort to plan for the care of the increased numbers of people who

frequent the forest and the forest supervisors have been instructed to do their utmost to provide for their comfort and pleasure.

Snow reports received from each area on Thursday of each week are available at the offices of the Department and are furnished to all newspapers and radio stations who will make use of the information.

New ski trails have been constructed on the Chester State Forest and the Brimfield State Forest, and changes made in the trails at Beartown State Forest and East Mountain State Forest, Great Barrington.

At the Chester State Forest and at the Pittsfield State Forest, ski lodges have been provided. The lodges will be open and heated when the trails are being used. Like accommodations will be available at the Administration Building on the Mohawk Trail State Forest. Construction of a new trail on the Brimfield State Forest has been started but will not be available this winter. Available winter sports facilities are listed as follows:

Mount Grace State Forest—Warwick

- Gulf Link Trail (novice)
- Mount Grace Trail (intermediate)
- Three parking areas, two shelters with fireplaces
- Snow Shoe Trail (may be used as cross country ski trail)
- Tripod Trail

Mohawk Trail State Forest—Charlemont

- Ski Slalom
- Numerous Trails

Chester State Forest—Chester

- Trail A (intermediate)
- Trail B (novice)
- Trail C (novice, ten-acre practice field and shelter available)
- Ski Lodge (drinking water)

Brimfield State Forest—Brimfield

- Trails 1 and 2
- Parking facilities
- Trail 3 under construction

Pittsfield State Forest—Pittsfield

- Ghost Trail one way travel only (intermediate)
- Shadow Trail one way travel only (intermediate)
- Cascade Slope Trail (novice)
- Cross Country Trail (easy grade)
- Lulu Brook Trail (easy grade)
- Sky Line Trail (steep grade)
- Honwee Circuit Trail (steep grade)
- Parker Brook Trail (steep grade)
- Tower Trail (steep grade)
- Hawthorne Trail (steep grade)
- Sackett Trail (steep grade)
- North Branch Trail (steep grade)
- Goodrich Hollow Trail (steep grade)

Beartown State Forest—Monterey

- Open Slope Trail (novice)
- Crow's Nest Trail (novice)
- Polar (intermediate)
- Kodiak (expert)
- Grizzly (expert)
- Burgoyne Pass (cross country)
- Wildcat (cross country)
- Mount Wilcox Road (cross country) unplowed

East Mountain State Forest—Great Barrington

Forgotten Bridge Trail (intermediate)

Taconic Trail (intermediate)

Bottleneck Trail (intermediate)

Warner Trail (novice)

Open Field (novice)

Appalachian Trail (cross country)

Wildcat (cross country)

Parking space, two ski tows, canteen, ski-shop, first aid room available on private land as well as Inn for overnight guests.

The following regulations governing the use of State forests for winter sports were promulgated by authority of Chapter 132, Section 34, General Laws:

Persons using State forests for winter sports do so at their own risk.

Areas set apart for skiing shall not be used for the purpose of snowshoeing, tobogganing or any other purpose.

To prevent unnecessary damage to the surface of the snow and to promote safety, persons ascending a ski trail should keep to the side of the trail giving down hill runners the right of way.

After a spill a skier should get out of the way of down-coming runners and at the cry "Track" all skiers should move to the side of the trail to give the faster runners sufficient room to pass.

The leaving of clothing or anything else on ski trails is prohibited, for the protection of down-hill runners.

No individual group or organization shall advertise, hold or attempt to hold any contest or carnival on any ski trail under the supervision of this Department without first securing permission from the Commissioner or his agent, and in making application therefor shall set forth the information required by the Commissioner. All applications shall in the first instance be filed with the forest supervisor in charge of the forest where the event is to be held. Any individual, group or organization receiving permission to use ski trails for the purpose of a contest or carnival shall cooperate with the forest supervisor in maintaining good order and decorum during the carnival or contest.

The use of ski trails which have been set aside by the Commissioner for the holding of a contest or carnival is prohibited except to those taking part in the event.

Violations of these regulations punishable by a fine of twenty dollars.

WILD LIFE IN STATE FORESTS

In the report of 1936 it was pointed out that the propagation and restoration of wild life should be a major part of any program for the full use of State forests, as being publicly-owned they can be properly controlled, thereby proving of great value in solving the wildlife problem.

Eighteen areas in the State forests, totaling 15,577 acres, have been set aside as wildlife research and development plots. Seven of the areas have been mapped, work plans drawn and actual development started and important improvement work plans instituted.

Approximately 44 miles of graveled fire lanes have been constructed as well as 50 water holes for fire protection. To supply cover, 247,650 coniferous seedlings have been planted in scattered groups adjacent to feeding grounds, escape covers have been established, 7.3 miles of food strips cleared, cultivated and planted, and 42.75 acres of food patches established.

By the planting, transplanting, grafting and pruning of some 20,000 fruit-bearing shrubs and trees, including 2,839 *malus* grafts, the winter food situation, as it affects wild life, has been greatly improved in many areas.

The treatment of the various types of hard and soft wood growth on 847 acres to improve the composition, and the establishment of a nursery for the propagation of food and cover trees have been some of this year's accomplishments.

A game census has been taken twice each month by the grid line system. Stream improvement has been carried on by the installation of check dams and deflectors and by the clearing or installation of spawning beds in over 4.5 miles of trout streams.

Twenty-five ponds have been created for fishing and waterfowl restoration and proper aquatic food plants established in many instances.

Results of the grid line census would indicate material benefit to the desirable species of wild life by these operations, and further demonstrate the advantage of escape cover as a control of predators.

Observations and findings over a two and a half year period of similar work indicate that we can be confident that our wildlife restoration work has been started in such a manner that if continued it cannot prove to be otherwise than beneficial.

By the gift, on June 9, 1937, of 1,902 acres of land in Ipswich and Topsfield from Bradley W. Palmer, to be known as the Willowdale Forest, 1,235 acres of which is to be administered as a wildlife sanctuary, the Department is in a position to greatly enlarge its wildlife restoration efforts.

The donor of the property has, for many years, shown deep interest in wildlife preservation and his deed of conveyance contained a clause providing that 1,235 acres of the Pine Swamp tract "shall be considered and administered as a wildlife sanctuary within which the primary objective shall be the preservation and propagation of all useful wild life natural to the section in which the area is located."

Many miles of bridle paths cross this area, small ponds, meadows and brooks abound, large stands of pine and hardwood growth are there, wild berries are abundant and many wild deer are said to frequent this forest. Four groups of farm buildings, as well as a small cottage used to house the caretaker, are on this area, the tenants continuing to pay rental to the Commonwealth.

Mr. Palmer has signified his willingness to cooperate in the development of this area and it is conceded by those familiar with the Willowdale Forest that the ultimate results of the wildlife restoration work on this area cannot help adding substantially to the desirable wildlife species in that locality.

It is not the intention of the Department to add to the acreage of so-called posted land unless a wildlife program is immediately instituted and continued which will warrant closing the areas to the hunters.

In any program of wildlife restoration there is much that is necessary other than the establishment of sanctuaries and breeding areas. Provision must be made for the care, maintenance and development together with a reasonable amount of predator control in these areas, if we are to justify their existence, especially in closing them to the hunter and fisherman.

WILDLIFE AREAS

Of the following wildlife areas, those at Beartown, Brimfield, Erving, Pittsfield, Townsend and Myles Standish State Forests, are now being developed by the Civilian Conservation Corps.

	Acres		Acres
Beartown	800	October Mountain	1,310
Brimfield	312	Otis	180
D. A. R.	244	Pittsfield	250
Erving	660	Sandisfield	364
Federation of Women's Clubs	140	Savoy Mountain	1,600
Freetown-Fall River	500	Townsend	700
Hawley	530	Windsor	150
Leominster	720	Wrentham	292
Myles Standish	5,500	Willowdale	1,325

FOREST FIRES

With the exception of a large number of incendiary fires in Plymouth, Bourne, Wareham and Falmouth, the 1937 fire season was favorable.

With the observation towers reporting nearly 1,600 fires during the spring months, there were not over 20 fires that burned in excess of 100 acres and no second day fires.

On May 4 three incendiary fires occurred in Plymouth burning a total of approximately 4,000 acres. It is estimated that the combined efforts of the fire fighters and equipment from nearby towns together with the State equipment that over

one million dollars worth of property was saved. Only 2 small buildings were destroyed throughout the area but unfortunately 2 fire fighters lost their lives.

Fire Ranger Terry deserved and received the commendation of the Department for his heroic efforts in saving the life of Joseph Thomas, Jr., whom he dragged from the burning area.

On May 10, eighteen fires were set in Wareham, Bourne, and Falmouth, burning over a total area of 1,500 acres.

The installation of 2-way radios in the Falmouth and Bourne towers and the Falmouth Fire Station, also in 2 cruising cars of the Falmouth Department will greatly assist in the prompt information of fires in that section. This system should be extended to all sections of the State where bad forest fire hazards exist.

Two modern forest fire-fighting trucks, constructed by the Department, have been added to the service; one being assigned in Norfolk County and the other in Dukes County.

Two new patrol cars for forest fire rangers in Barnstable County have been constructed by the Department. These cars are equipped with pumps and hose in addition to the extinguishers carried in the old cars.

MOTH WORK

The unusually mild winter was very favorable for the moth and insect life.

Observations conducted in the field by the division superintendents, employees of the United States Department of Agriculture, the Bureau of Entomology and Plant Quarantine would indicate that in the case of the gypsy moth nearly 100% hatch occurred.

Reports from all sections of the Commonwealth proved that the gypsy moth, as well as canker worms, forest tent caterpillars and orchard tent caterpillars were responsible for the defoliation of many thousand acres.

This situation existed despite the fact that over 3,000 men were engaged in creosoting egg clusters in approximately 157 towns under WPA projects during the winter and spring months. Notwithstanding the effort of creosoting, spraying of the same trees must be accomplished in early June, otherwise defoliation will occur in relation to the degree of infestation.

The spraying season is necessarily very short and when numerous rains prevail such as were experienced during the month of June, the efficiency of this method of control is correspondingly reduced.

CIVILIAN CONSERVATION CORPS

NATIONAL PARK SERVICE

The beginning of the fiscal year found the CCC work, on the areas where the National Park Service was cooperating, progressing favorably with no change in the set-up that existed at the close of last year. Expansion of the development plan at Savoy SP-12 occasioned increased travel for the workers. A transfer with the United States Forest Service made possible the moving of this camp and it was newly designated as SP-21 at the close of March, 1937. On this new location many projects on the Savoy area were rapidly completed. The field was broadened and the development on the Windsor area was rounded out and brought to completion.

The balance of the one-quarter reduction in the number of camps which began last year was effected in April when the loss of SP-22 at Hawley was suffered. Before this reduction, however, a great deal of work was accomplished on D.A.R. Forest and many projects started by the former D.A.R. Camp SP-14 were completed.

On June 30, 1937, the Federal Government's Emergency Conservation Work program terminated. Congress passed new legislation establishing the Civilian Conservation Corps, a new governmental department, which was to replace ECW and function for three years. This new department was of smaller size than the ECW and a nation-wide reduction was necessary to bring the CCC within the new limitations. In September the Mohawk Trail Camp SP-6 and Freetown SP-16 were closed. This closing was anticipated and new projects were held in abeyance, favoring the completion of projects under construction. This assured a minimum of work necessary to round out developments to that stage of the

program which had been attempted to date. The closing of Leominster SP-13 and October Mountain SP-28 was considered in September but this move was forestalled until December to allow completion of the work on which construction had been started.

In order to complete that stage of development which had been reached on areas where camps were abandoned, work was done from existing camps, Savoy SP-21 worked on the Windsor, D.A.R. and Mohawk Trail Forest areas in addition to its home area Savoy Forest; Pittsfield SP-23 continued work which had been started by camp SP-8 on the Pittsfield Forest; Nickerson Park Camp SP-19 assisted in closing out the Freetown area and Robinson Park Camp SP-24 completed the program on the Granville Forest area.

The loss of Leominster SP-13 and October Mountain SP-28 shortly after the closing of this year is a certainty and there is a possibility of further reduction in the number of National Park camps due to the present economical tendencies of the Federal administration.

List of National Park Camps

Camp No.	Location	Mailing Address	Abandoned
SP-1	Blue Hills Reservation	Milton	Sept. 28, 1937
SP-2	Watuppa Reservation	Fall River	June 25, 1937
SP-3	Chicopee Watershed	Chicopee	June 25, 1937
SP-6	Mohawk Trail State Forest	Charlément	Sept. 27, 1937
SP-7	Greylock Reservation	Pittsfield	
SP-12	Savoy Mountain State Forest	Charlément	Sept. 27, 1937
SP-13	Leominster State Forest	Fitchburg	
SP-16	Freetown State Forest	Fall River	Sept. 22, 1937
SP-17	Breakheart Reservation	Melrose	
SP-18	Mount Tom Reservation	Holyoke	
SP-19	Nickerson State Forest Park	E. Brewster	
SP-21	Savoy Mountain State Forest	North Adams	*(See Note 1.)
SP-22	Hawley State Forest	Charlément	Mar. 31, 1937
SP-23	Pittsfield State Forest	Pittsfield	
SP-24	Robinson State Park	Feeding Hills	
SP-25	Upton State Forest	Westborough	
SP-28	October Mountain State Forest	Lenox	

*Note 1.—On March 25, 1937, SP-21 was abandoned. The personnel and equipment were moved to a former camp location and designated as Camp SP-12.

CIVILIAN CONSERVATION CORPS IN MASSACHUSETTS

U. S. FOREST SERVICE

Due to a general reduction of CCC camps throughout the country, it was necessary to close 8 U. S. Forest Service Camps during the year just passed. Despite this heavy loss the record of CCC accomplishment during 1937 reflects credit upon the efficient and business-like manner in which their work is planned, conducted and administered.

During the past year plans and policies for the scientific treatment of our State forests were reviewed and revised where necessary in order to derive the maximum benefit from CCC cooperation. As a result several thousand acres of State forest land were given a recognized silvicultural treatment under the immediate supervision of technically trained foresters. Inspection of the work was supervised jointly by the Federal Government and Department of Conservation.

As a means of determining the amount, type and quality of forest cover on our State areas, the forest inventory continues as an integral part of the forest policy as established by this Department. Through the medium of the tabulated results from each CCC camp this Department will be in a better position to plan its silvicultural treatments, predict the annual yield of saw logs, cordwood and other forest products and to allocate its planting stock advantageously. Several of the forest areas have already been completed and the data obtained has been particularly valuable in properly administering the areas concerned.

The suppression of gypsy moths in central and western Massachusetts occupied the full time of an average of 3 camps for the past year. Since the winter of 1936-37 was unusually favorable for the over-wintering of this insect, it can be readily seen that Massachusetts was indeed fortunate in having 3 camps to devote their entire activities to this important work.

Although these camps are under the jurisdiction of the Department, the field work is largely supervised by the U. S. Department of Agriculture, Bureau of

Entomology and Plant Quarantine at Greenfield, Massachusetts. For years this insect has been a serious menace to shade and forest trees and has caused much concern to conservationists. The success of the efforts of the gypsy moth camps in controlling the spread of this insect is notable and should be continued to insure adequate control. Gypsy moth crews have also been detailed for work on State forests where infestations have been found.

Considerable emphasis has been placed upon the construction of forest roads. For years our State areas have been inadequately supplied with a proper mileage of serviceable roads. This has become more noticeable with the recent increase in the response of the public to the many recreational facilities now available on practically each State forest.

Accordingly each of the State Fire Wardens together with the CCC officials and the Department of Conservation staff have combined to select and locate the most essential roads on each area and to arrange the means of assuring that the most important roads on each forest are constructed first. As a result of this careful planning, we now find that no State forest is without its arterial roads and that all major recreational centers can be reached without difficulty.

During the past year many miles of good substantial gravel roads were constructed by the CCC camps and they are designed to withstand the maximum amount of traffic wear with a minimum of maintenance. These roads not only provide access to recreational facilities but they also furnish the means of better administration of the areas as well as making it possible to move fire-fighting equipment to the scene of a forest fire with the least amount of delay.

No summary of CCC work would be complete without giving well-earned credit to the corps for the important work rendered during the forest fire season. Invaluable aid was furnished by the camps at the Plymouth and South Carver fire of May, 1937, and at several other fires throughout the State. Frequently the timely arrival of these boys spelled the difference between success and failure in confining the blaze to a small area. Their response, training and efficiency were praiseworthy.

One of the most noteworthy achievements of the CCC is certainly the very excellent work completed in the various fields of recreation. Following the trend of the times much planning and work has been devoted to the construction of ski trails for the beginner, novice and professional. Public response to these has been immediate and already many of the facilities provided are beginning to be taxed to their limit. Ski slopes are now available on the following State forests: Brimfield, Chester, Beartown, East Mountain, Pittsfield and Mount Grace. Accommodations are provided at some and plans are now practically complete to assure adequate facilities at each. It is significant to note that snow trains from New York City are now being run regularly to many of our western forests. Experts have pronounced the slopes the equal of many throughout New England.

The popularity of the open-air fireplaces with picnic groups has been definitely established. Even by almost doubling the number of fireplaces for public use within the past two years we still find by actual count that we have not yet satisfied the public demand. Additional units will be provided during the coming year in an effort to relieve the heavy congestion on our more popular areas.

Last fall Dingley Dell Dam on the Brimfield State Forest was dedicated with appropriate exercises. This dam flows an area of approximately 12 acres and the pond thus made has been provided with a beach, bath-house, picnic area, latrines and parking space. Even before this recreational area was turned over to the State by the CCC, it was evident from the response by the public that the development would be extremely popular and that the project was fully justified. Plans have now been completed for the rebuilding of the so-called Dingley Dell Road into the area, thus assuring easy access to the development.

Especially worthy of mention is a recreational development under construction on the north shore of Wallum Lake in the Douglas State Forest. This large body of water (partly in Massachusetts and partly in Rhode Island) offers excellent possibilities as a recreational center. During the past year a large bath-house was built on the lake shore, latrines were constructed and an excellent beach partially completed. A master plan of the area is now finished and calls for the erection of an administration building and a pavilion during 1938 and the construction of a

boathouse and additional fireplaces and latrines during 1939. Inquiry by the public as to the dates of completion on the project shows that there is a widespread interest in the project and that the facilities are sorely needed in that section of the State.

Smaller recreational developments have been completed by the CCC on many of our other State forests such as observation towers, improvement of springs, cutting of vistas, improvement of bridle trails and foot trails and the construction and enlargement of public parking spaces.

Unique among the concerted efforts of the corps is that of wildlife management or restoration. Wildlife management is a comparatively new field of professional activity yet many distinctly worthwhile contributions have been made by the several camps engaged in the work. Of more than passing interest is the success attained by the Beartown CCC Camp in the raising of turkeys. Experiments have been conducted on this area for the past few years and from the results attained it seems fair to conclude that the work has been successful and that this fine game bird can, with proper protection, reestablish itself within our borders. The flock experimented with has passed through several winters without harm and has definitely established itself in the wild state.

In several of the CCC camps much attention is being given to the restoration and protection of our native game birds and animals and fish with excellent results.

The protection of State areas against forest fire is another type of work in which the CCC has been actively engaged. Briefly this work has consisted of the construction of many water-holes located at strategic points, the construction of fire lines and the reduction of fire hazards by the piling and burning of slash and inflammable debris. Gradually through these efforts each State forest will be freed from fire hazards and provided with an adequate and effective network of water-holes which aid materially in the quick suppression of a forest fire.

Great though the benefits are to our State forests through the contribution of the Civilian Conservation Corps, there is still another benefit that cannot be measured in terms of acres, miles, or number—it is the benefit to the enrollee himself.

Too often this vital aspect of the corps is overlooked by the public or even those deeply interested in the work. Few people realize that each enrollee is given expert medical attention and recreational, educational and job-training opportunities while in his camp. Few people realize that often through the assistance he has received in a camp he is enabled to accept a position in civil life and many times to discharge his duties with more than ordinary ability. Without question upon discharge the enrollee returns to his community a better citizen for having availed himself of the opportunities for self-improvement found in the corps.

Surely such a movement with its acknowledged benefits to our natural resources and young citizens should be continued.

Active Forest Service Camps During 1937

December 1, 1936 to December 31, 1937

Camp	Location	Mail Address	Abandoned 1937
S-56	Myles Standish State Forest	Plymouth	Dec. 15
S-60	Brimfield State Forest	Palmer	
S-62	Wendell State Forest	Millers Falls	Dec. 17
S-64	Chester State Forest	Chester	
S-66	Beartown State Forest	South Lee	
SA-70	Savoy Mountain State Forest	North Adams	Mar. 26*
S-71	Sandisfield State Forest	New Marlborough	May 28
S-73	Tolland State Forest	East Otis	Oct. 8
S-76	Harold Parker State Forest	North Reading	
S-77	Freetown State Forest	Assonet	Mar. 26
P-78	Montague (private land)	Millers Falls	Sept. 16
P-79	Greenfield (private land)	Greenfield	
P-80	Westfield (private land)	Westfield	
P-81	Belchertown (private land)	Belchertown	May 24
S-82	Townsend State Forest	West Townsend	
S-85	Douglas State Forest	East Douglas	
S-86	Northfield State Forest	Warwick	
S-87	Mohawk Trail State Forest	Charlemont	Sept. 24
S-91	Colrain State Forest	Charlemont	Sept. 20
S-92	Mount Grace State Forest	Warwick	May 26
S-93	October Mountain State Forest	Becket	
S-94	Savoy Mountain State Forest	North Adams	(See SA-70)

*Note: On March 26, 1937, SA-70 was abandoned, and transferred to former Park Camp SP-21 on the same forest. New Number S-94.

LEGISLATIVE INVESTIGATIONS

Chapter 44, Resolves of 1937, provided for an investigation and study by the Department relative to the acquisition by the Commonwealth of certain property at Halibut Point in the Town of Rockport and certain property in the Town of Westport for State park or reservation purposes.

Under the resolves the Department was also authorized and directed to make an investigation and study of current House Document No. 1726, a Bill providing for the establishment of the Mount Holyoke State Forest in the Towns of Hadley and South Hadley.

The Department was instructed to consider particularly as to whether public convenience requires the carrying out of said projects, or of any of them, and if so, it should determine as to the probable cost of each project and how cost should be apportioned.

The relative importance and necessity of such of these projects as might be recommended, to be listed in that order, as determined by the findings of the Department and a report of said findings and recommendations to be made to the General Court.

Chapter 47, Resolves of 1937, provided for a further investigation by the Department of Conservation relative to the acquisition by the Commonwealth of Sabbatia Lake and adjacent land in the City of Taunton.

Chapter 60, Resolves of 1937, provided for an investigation and study by a special commission relative to certain problems in the Merrimack Valley by a special unpaid commission consisting of the Commissioners of public health, public utilities, public works and conservation or a representative to be designated in each instance by such commissioner and the chairman of the State planning board.

The commission to investigate and study certain problems existing within the territory of the cities and towns of Amesbury, Andover, Chelmsford, Dracut, Groveland, Haverhill, Lawrence, Lowell, Merrimac, Methuen, Newbury, Newburyport, North Andover, Salisbury, Tewksbury, Tyngsborough and West Newbury commonly known as the Merrimack Valley.

Some of the problems considered are as follows: transportation services and facilities, traffic conditions, establishment and operation of a sewerage district, disposal of waste and refuse; purification of the waters of the Merrimack River; the improvement of highways and bridges and the improvement and beautification of roadsides; the improvement of waterways, particularly the Merrimack River with a view to making said river navigable; water supply; acquisition and improvement of recreational facilities including the construction of bath-houses and beaches; acquisition of sites for parks, playgrounds, outing groves, camping facilities and providing for winter sports; stocking of waterways for fishing; flood control of the waters of the Merrimack River; soil erosion and conservation and the general improvement of natural resources.

LEGISLATIVE RECOMMENDATIONS

Division of Forestry

While there are sections of the General Law affecting the work of the Forestry Division that could well be repealed or amended to facilitate the operation of the Division, it is felt that the need is not urgent enough to warrant burdening the General Court with the work at this time or the taxpayers with the expenses incidental to the enactment of legislation.

*Division of Fisheries and Game**Revision in Part of the Fish and Game Laws*

With the changing conditions and the volume of bills filed each year, amendments have been made to the fish and game laws until practically every section of Chapter 131 has been amended at least once and some sections have been amended nearly every year since 1930, and in some instances three times during one legislative session.

Owing to the numerous amendments it seems necessary that the laws relative to fish, inland fisheries, birds and mammals should be brought up to date, simplified and corrected.

Unless one is following the fish and game laws at all times, it is difficult to determine just what the law is and in several instances the courts have criticized the present condition of the fish and game laws. Therefore, it is deemed necessary to recognize the necessity for action by requesting that an unpaid commission be authorized to remedy this situation through recommendations to the Legislature.

Resolve providing for a Survey and Study by a Special Unpaid Commission relative to the Fish and Game Laws. *Resolved*, That a special unpaid commission, to consist of one member of the senate to be designated by the president thereof, three members of the house of representatives to be designated by the speaker thereof, the commissioner of conservation or an assistant to be designated by said commissioner, and two persons to be appointed by the governor, is hereby established for the purpose of making a survey and study of the laws of the commonwealth relative to inland fish and fisheries, birds and mammals. The commission shall be provided with quarters in the State House, may hold public hearings and may expend for clerical and other services and expenses such sums, not exceeding in the aggregate, dollars, as may hereafter be appropriated therefor. Said commission shall report to the general court the results of its survey and study and its recommendations, if any, together with drafts of legislation necessary to carry said recommendations into effect, by filing the same with the clerk of the house of representatives not later than the first Wednesday of December in the current year.

PART II

ANNUAL REPORT OF THE DIVISION OF FORESTRY

The thirty-fourth report of the State Forester is herewith submitted.

This report covers the development and maintenance of State Forests as carried on both by State crews and the CCC camps, operation of the State nurseries, the reports of the State Fire Warden and the Chief Moth Suppressor, and other activities under the supervision of the State Forester.

Financial statements, including expenditures on State forests for gypsy moth work, nurseries, fire prevention, park expenses and income from all sources, will be found in the appendix.

LECTURES

During the year, the Commissioner and 4 members of the Division of Forestry have spoken before 98 different groups, women's clubs, service clubs, church organizations, fish and game clubs and similar meetings. This number does not include committee meetings, CCC conferences or district wardens' associations, which are considered part of the day's work of the Department.

EXAMINATIONS

During the past year the Division of Forestry received requests from 55 different persons owning about 3,400 acres of land for an examination of and advice on the care of their property. The problems involved in such examinations include planting, thinnings, markets for lumber and the control of various insects and diseases.

NURSERY WORK

In accordance with the outline of recommendations for development, improvement and expansion of State nurseries, which is contained in Public Document No. 73, being the Annual Report of the Commissioner of Conservation for the year 1936, the proposed improvements contained therein have been made and plans for expansion are being carried out to the end that the output of the nurseries may eventually be of sufficient size to meet the public demand for reforestation stock with a strict adherence to the policy of prohibiting the sale of trees for ornamental purposes and in accordance with the reforestation program as approved by this department.

Amherst Nursery

At the Amherst Nursery a building has been erected which provides garage accommodations for three vehicles, a large workshop which is used to manufacture seed frames, planting boards, etc., and a large loft above the first floor which cares for general storage of materials, equipment, and implements used in connection with nursery work.

A much needed storage cellar is also a part of this unit. This cellar will make it possible to handle more efficiently the many shipments of trees from this nursery and will materially reduce the loss of transplants which in the past has occurred because of drying out, uneven temperatures, and other shocks of similar character.

Another small building has also been erected at this nursery and it is planned that this building will be used to house a seed extracting unit. While it is true that the large building previously referred to is possessed of sufficient space to accommodate this operation it would seem unwise to carry on seed extracting operations in this unit for the reason that there are highly combustible properties contained in the cones from which the extraction is made which in themselves greatly increase fire hazard. The value of seed extraction from cones which are collected from local and native areas is great. First, the reproduction possibilities have been found to be excellent as has been indicated by germination tests. Second, and of equal importance, is the possibility of comparative observation as to rapidity of growth, health of plant, possibility of gaining information in connection with parent trees, etc., and such information as might well one day contribute much to the future of reforestation.

There has also been erected at this nursery a large rustic sign bearing the name of the department and division under which it is operated. This sign together with a sign which has been erected adjacent to the college campus on one of the drives entering into the nursery was placed there so that visitors and others interested might have information as to ownership and might not confuse this area with the college activities by which it is surrounded.

Clinton Nursery

At the Clinton Nursery a water system has been installed. This unit consists of a gasoline driven pump which is sheltered by a small building and connected by a pipe line and a large storage tank which is advantageously located at the principal seat of shipping operations. Previously it was necessary to carry water for a considerable distance in limited quantities and it is estimated that this antiquated method was so expensive that the expense of its use for a single season was greater than the cost of installation of the present system.

At this nursery also a large rustic arch was placed at the entrance to identify it from its surroundings which are principally that of the Metropolitan District Commission's Wachusett Reservoir watershed, and because of which in many instances the public have been confused as to ownership, operation, etc.

An all-important problem which will have to be treated in the immediate future at this nursery is the rehabilitation of the soil properties. This condition is due to the fact that necessary operations with the constant turnover of stock over a period of years have removed much of the most valuable top soil, and owing to the failure to restore this energy by frequent treatments of fertilizers, chemicals, peat sod, etc., this problem has resulted. To overcome this condition plans are being made to clear an adjoining piece of scrub land which will be used for planting purposes, and which will make it possible to rest and treat the affected areas to which reference is made.

Bridgewater Nursery

At Bridgewater work has been steadily carried on to restore this nursery to its maximum ability to produce. More than one million two-year seedlings were set during the 1937 planting season. The soil was treated with fertilizers and manure with very satisfactory results.

Repairs were made to buildings and water system, and driveways were re-surfaced.

At this nursery also a large rustic arch was erected carrying a sign which identifies

the nursery, so that the public may not confuse it with the Bridgewater State Farm operations which very nearly surround this property.

Otter River Nursery

At the Otter River Nursery it was necessary to carry on the work in conjunction with the Otter River State Forest activities, recreation, etc., because there were not sufficient funds to operate this nursery as an independent unit.

This procedure can be continued as long as the nursery output is used for State forest planting but it would not be practical to operate this way if the stock were to be sold to individual purchasers, due to the lack of shipping facilities, location, etc.

Erving Nursery

The Erving Nursery successfully serves as a display nursery and its continued use in this capacity seems highly desirable.

Shawme Nursery

Soil treatments at the Shawme Nursery during the past season have definitely indicated that transplants can be successfully grown. Because of the advantageous location of this nursery, together with the excellent possibilities of serving much of the reforestation stock needs in the Cape area, future expansion is now being planned.

Myles Standish Nursery

The long-term planting program on the Myles Standish State Forest and adjacent State-owned tracts of land which will consume the entire output of the nursery on this forest for some years to come would, in itself, justify a continuation of the present procedure and operation of this nursery.

The geographical location of these nurseries provides an excellent contribution to economic and efficient operation as they are so situated that they can capably serve each portion of the State equally well.

The immediate need for further improvement and essential nursery operation, other than the suggestions contained above, would seem to be the purchase of power cultivators. Use of these machines at the nurseries would be of tremendous value, as frequent cultivating operations are very essential to aid and insure the growth of transplants, and the purchase of these implements is contemplated. A single machine will accomplish more in one day than could possibly be done in several days under the old system of using a horse, and over a period of time the cost would be much less.

Sales and Distribution

The following is a comparative table of two-year seedlings which were transplanted in the nurseries:

SEEDLINGS TRANSPLANTED AND TOTAL INCREASE: 1936-1937

	1936	1937
Amherst	815,000	830,000
Clinton	1,085,000	1,480,000
Bridgewater	585,000	1,100,000
Otter River	200,000	125,000
Erving	100,000	100,000
Myles Standish	200,000	150,000
Shawme	240,000	40,000
Total	3,225,000	3,825,000
Seedlings transplanted, 1936-1937—Total increase		600,000

The following is a list of the trees which were shipped in 1937 and the various classifications to which they were distributed:

Sales	465,062
State Forests and Forest Parks	1,241,200
State Departments and Institutions, etc.	277,626
Town Forests	243,000
Total	2,226,888

WORK ON STATE FORESTS

The development of our State forests has progressed during the year principally through work of the CCC Camps. Progress has perhaps not been as rapid as in previous years, due to the fact that 8 camps were closed during the year, reducing the number from 27 to 19. To this must be added the fact that during the summer the enrollment in the camps was low. Their work has continued along the same lines as in previous years:—construction of roads and trails, building of dams, development of picnic areas and recreational facilities by the construction of bath-houses, latrines, fireplaces and tables, forest planting, forest stand improvement, fire hazard reduction, insect control, especially the suppression of gypsy moths, and a host of lesser projects. Two lovely ponds were developed, one at Brimfield by the building of Dingley Dell dam, another at Savoy by the construction of Bog Pond dam.

The inadequate force of men and resources with which we must maintain these forests and forest parks was even more apparent than last year. The improvements put in by the CCC camps have attracted to our forests an increasing number of fishermen, hunters, picnickers and campers. In fact, we now have thousands of visitors where formerly we had hundreds; yet we have no increased appropriation or number of men to handle this enlarged responsibility.

Arthur Warton Swann State Forest

The experimental work initiated on this forest some years ago has been maintained by the necessary liberation of the numerous sample plantations. The main road and forest roads were brushed out. Owing to the fact that only 2 men form the regular crew on this forest and that one of these men has been attached during the summer and fall to help care for recreational activities on the Beartown Forest, only the most essential work could be done. During the fall a local WPA crew, under the direction of the County Blister Rust Agent, carried out a project of pruning the older white pine plantations, with the idea that numerous branch cankers on these trees would thus be removed and the trees saved from death.

Ashburnham State Forest

The regular crew of 2 men during the winter and spring finished weeding the Harrington Lot, repaired the road leading into the lot and brushed the fire lines along the railroad. During the summer, they repaired roads in the North Ashburnham section of the forest and at Ballou's Reservoir by blasting and removing rocks. During the fall, although on half time, they liberated young plantations near Little Watatic Mountain. They have also assisted the District Fire Warden in repairing telephone lines to the various towers in his district.

Barre State Forest

Ten acres of young plantations were released and 1.5 miles of forest roads brushed out.

Beartown State Forest

The State crew consisting of the superintendent and 2 men has taken care of 2 picnic areas and ski trails on this forest, as well as other recreational areas at Otis, Sandisfield, Tolland and Campbell Falls in New Marlborough. It is estimated that 6,000 people visited Mount Wilcox, while about 200 tried fishing at Benedict Pond. The lack of snow on the ski trails last winter cut the attendance on these to a few hundred. In addition to these recreational activities, the crew cleared

11 miles of trails, 6 miles of roadsides, planted 10,000 spruce, put a gravel floor in the barn which they also painted, together with 3 rooms in the house, and developed a spring at Benedict Pond picnic area. The superintendent personally put in much time with the crew from the CCC camp, making a forest inventory.

Beartown State Forest

Emergency Conservation Work S-66

The principal item of road construction has been the building of the Monterey Road, started in 1936, for a distance of 3.5 miles. A section of the Mount Wilcox Road was relocated and a bridge built over East Brook. Maintenance and local improvements were made on the entire 16.5 miles of forest roads.

Recreational work was confined largely to the ski trails near South Lee. An Adirondack shelter including toilet facilities and a water supply was built near the summit of the trails. A water supply was put in on the Mount Wilcox picnic area. A cross country ski trail known as the Wildcat Trail to run from Beartown Forest to East Mountain Forest, a distance of about 10 miles, was started.

Forest stand improvements included 3 projects of somewhat different character, totaling 120 acres. White pine and Norway spruce plantations were scouted for tip weevil.

The wildlife management for which this forest is noted has continued. Three miles of rides were cleared and planted to buckwheat, millet, etc. A small game nursery was started.

Boxford State Forest

A crew from Camp S-76, on Harold Parker Forest, scouted 285 acres for gypsy moths and destroyed 274,000 egg clusters. This work was followed up by the spraying of 155 acres in June.

Brimfield State Forest

Emergency Conservation Work S-60

The principal event for this camp was the completion of Dingley Dell dam. This dam, 190 feet in length and about 25 feet in height, is an earth fill structure with a concrete core-wall and granite spillway. It impounds 12 acres of water, now called Dean Pond. On the north shore of Dean Pond, a bathing beach, bath-house and parking area for 200 cars have been constructed. On the south shore, there is a picnic area with 13 fireplaces but capable of considerable expansion. Another recreational development of importance is the building of 3 ski trails and landing area adjacent to Deth Hill road. The 3 trails are served by a parking area for 60 cars. More conventional work includes the building of 2.5 miles of truck trail, 43 acres of clearing and planting and 140 acres of improvement cuttings. On the wildlife area 1.5 acres of food and cover planting was carried out and dusting and nesting sites established.

Chester-Blandford State Forest

A large part of the time of the State crew on this forest was devoted to the development and maintenance of the 2 picnic areas. At Boulder Park, the shelter and other buildings were creosoted and the pond drained and cleaned. At Chester Park, 15 additional fireplaces and tables were installed and some landscape planting carried out. It is estimated that about 15,000 persons used the facilities of the two areas.

On the forest in general, about 25 acres of woodland were thinned and 8 miles of trails brushed out.

Chester-Blandford State Forest

Emergency Conservation Work S-64

This camp has completed 2.2 miles of new road during the year and put the finishing touches on 1 mile of road practically completed in 1936. It has carried on forest stand improvement work, including weedings, thinnings and liberation cuttings on 385 acres of land. Crews from this camp have scouted 1,725 acres

of State forest land and 16,000 acres of private land for gypsy moth control. Intensive work in the form of brushing, thinning and burlapping has been done on 400 acres of infested land. One of the principal developments of the year has been the construction of 2 ski trails with a total length of 1.4 miles and an adjoining open slope area. This winter sport development also includes the building of a shelter at the top of the trails and a ski lodge, also a building, 16' x 24', with a stone fireplace, at the foot of the trails. Two parking areas to accommodate the skiers adjoin these trails. All the above projects were on the Chester section of the forest. In addition this camp used 300 man days salvaging the abandoned CCC camp at Otis and 638 man days in making surveys and borings for the proposed dam at Middlefield.

Colrain State Forest

Emergency Conservation Work S-91

The French Road, so-called, started during the previous year, was finished to its junction with a town road at the French farm, a distance of about 1 mile. The main road, an old abandoned town road, was graded and surfaced from the Franklin Nursery to its junction with the Christian Hill Road, a distance of about .75 miles. The closing of the camp in October left about .5 miles of this road in a passable but incomplete state. The Plantation Road was built as a low service road to the boundary of the State land, about .5 miles, and a water-hole constructed at the further end.

Some 60 acres of mixed hardwood and softwood growth received an improvement and liberation cutting, while 125 acres of a 30-year-old plantation of spruce and white pine was given a crop tree pruning and liberation from birch and poplar suppression where necessary.

D.A.R. State Forest (Goshen)

The water level in both Lower and Upper Highland lakes remained at a satisfactory level during most of the summer. The picnic area at Upper Lake was used by many in spite of the rather crude facilities available. With the views to be obtained from More's Hill, this forest is bound to be popular because of the attractions of water, woods and hill, the more so if it can be more adequately maintained and supervised. Two groups of 4 H Club boys and girls used the abandoned CCC camp for summer outings during July and August.

D.A.R. State Forest

Emergency Conservation Work SP-12

A crew from Savoy Park Camp seeded the earth slope of the Highland Lake dam to prevent it from washing after heavy rains and have also attempted to strengthen the side walls of the spillway to prevent the rising waters from undercutting the banks. This project is not completed.

Douglas State Forest

Emergency Conservation Work S-85

On the Douglas Forest, .5 miles was added to the Streeter South trail and .3 miles to the Ridge trail. This included a stone and concrete bridge over Coopertown Brook. Wallum Lake trail was pushed vigorously and almost completed to the parking area at Wallum Lake. Two water-holes, one on Streeter road and the other on Thompson road, were built.

At Wallum Lake, extensive developments were carried out. The beach was cleared of boulders and other obstructions. A frame bath-house of substantial construction and two latrines were built. A well also was dug and a start was made on the construction of a parking area to accommodate 60 cars. This camp was also called upon to demolish the abandoned CCC camps at Sutton and Franklin and a total of 2,000 man days were used in this work.

Forestry work included improvement cuttings on 46 acres and fire hazard reduction along 33 miles of forest roads. Forty acres were reforested with 40,000 white pine transplants. About one-half of the forest was scouted for gypsy moths

and 69,000 egg clusters destroyed. Three small demonstration plots to show different types of weeding, thinning and underplanting were established on the Webster road.

Only one small fire which burned over about 4 acres occurred on the forest.

East Mountain State Forest
(Great Barrington)

The State crew from the Beartown Forest worked in cooperation with the crew from the Beartown CCC camp, in developing the ski trails on Warner Mountain. The ski tow trail was cut out by State men, a spring developed for water supply, signs placed and an open slope of 6 acres cleared. Although last winter these ski trails were in an unfinished state and skiing conditions very poor, they were used by about 2,000 persons. It is anticipated that with better facilities and more snow, their use by winter sports enthusiasts will be very large this coming winter.

Erving State Forest

During the winter, the crew stationed on this forest hauled logs cut on the Warwick, Wendell and Petersham forests by CCC crews, to a local sawmill and later transported the sawed lumber to a yard near forest headquarters. They also weeded about 20 acres of forest land in the Pinnacle section of the forest. During the spring, they were engaged in shipping and transplanting trees at the nursery. This crew also helped to extinguish fires in Montague, Leverett, Wendell and Ludlow. The summer was largely spent in the maintenance of the picnic area and bathing beach at Laurel Lake on this forest. The superintendent estimates that this area was used by 10,000 picnickers, 35,000 bathers and 25 campers. In addition some 500 hunters and 1,000 fishermen made use of the fish and game reserves of the forest. At the same time a wood storage shed was built at Laurel Lake and the essential weeding work at the nursery maintained. The fall was devoted to mowing brush along the sides of the 8 miles of forest roads which intersect this forest.

Erving State Forest

Emergency Conservation Work S-86

Men from the Northfield camp built the Pinnacle Road, 1 mile in length and relocated .4 miles of the Keyup Brook Road. At Laurel Lake picnic grounds, they enlarged the parking area, also the beach, installed 11 new fireplaces, including a council fireplace and built 2 reservoirs to supply water to the recreational areas. Six water holes were made for forest fire protection. Forestry work included the liberation of 226 acres of matured and planted pines and an improvement cutting was made in a 63-acre stand of mixed hardwoods resulting in the production of 185 cords of wood.

Federation of Women's Clubs State Forest

Emergency Conservation Work S-62

On this forest, which is located in Petersham, men from the Wendell camp have built the Fever Brook Road about 2 miles in length, running from the Petersham-New Salem road to the new No. 202 cutoff. Five water-holes were constructed along this road and the combined road and water-holes provide an excellent fire protective system for the eastern part of this forest.

Georgetown-Rowley State Forest

A crew from Camp S-76 creosoted 156,000 gypsy moth egg clusters on 150 acres of this forest.

Harold Parker State Forest

During the winter and spring, the State crew yarded out wood logs cut by the CCC camp, building a road into the Weston lot to do this and released spruce and red pine plantations. From the first of May until November, practically their entire time was consumed in the care of recreational areas, preparing wood for the

fireplaces and policing the several picnic areas. The use of this forest has exceeded all expectations. The superintendent estimates that it was visited by 100,000 picnickers, 40,000 bathers, 8,000 fishermen and 200 horseback riders.

The life guard at Berry Pond rescued 8 people from possible drowning. Skating is the only winter sport enjoyed on this forest. With the close of the recreational season about November 1, the crew returned to their job of hauling out cordwood and logs.

Harold Parker State Forest

Emergency Conservation Work S-76

The Harold Parker Road, which traverses the forest from west to east, was finished out to route 114, Danvers-Lawrence Turnpike, and in addition the first section of this road from route 125 to Haverhill Street was resurfaced with gravel. Important recreational developments were made at Berry Pond by the construction of a bath-house and shelter, installation of 12 additional fireplaces and tables, placing a float in the pond and creating increased parking spaces. In spite of these improvements, the area is already overcrowded. On one pleasant Sunday afternoon, 500 cars and nearly 3,000 people used this area. To take care of the overcrowded conditions at Berry Pond, further developments are in progress at Stearns Pond by the construction of a 5-acre bathing beach. A new Administration Building containing an office and garage was built on Salem Street for the State crew.

Forestry work included the planting of 34 acres of land with white pine and spruce and the preparation of 13 acres for planting in 1938. Liberation improvement cuttings and weedings were made on 200 acres of forest land. Last winter 830 acres were scouted for gypsy moths and 19,000 egg clusters creosoted; but owing to the influx of moths from surrounding territory, the scouting of only 105 acres near the boundaries revealed the presence of 155,000 egg clusters, in spite of the fact that some of this area was sprayed during the summer. Fire prevention work included the building of 2 water holes but only 75 man days were used on actual fire fighting. Over 5,000 fishing permits were issued for use on this forest, while several hundred thousand pond fish were removed from the breeding ponds by the Division of Fisheries and Game for stocking other waters.

Hawley State Forest

Emergency Conservation Work SP-22

This camp was closed in April, hence its activities for 1937 were confined to winter work in the woods. On the Long Lot a slash clearing project was in progress to reduce the hazard created by the debris left from a previous logging operation and 48 acres of stand improvement work was completed in an area cut over some years ago.

Leominster State Forest

Emergency Conservation Work SP-13

Fenton Road, about 1 mile in length, was completed to the boundary of the forest. The wildlife sanctuary was enclosed in a 5-mile wire fence and protected by a fire break. Forest stand improvement covered 275 acres while 65 acres of cut-over land were prepared for planting during the winter and reforested in the spring. The entire forest and surrounding territory covering more than 5,000 acres was scouted for gypsy moths and 257,000 egg clusters found. During June, the principal roadsides were sprayed. Some 500 acres of pine plantations and surrounding lands were freed of currants and gooseberries to stop the spread of pine blister rust. The Crowe Hill picnic area was planted with 1,000 native shrubs transferred from other sections of the forest.

Lowell-Dracut State Forest

WPA PROJECT

During the past year, at Lowell-Dracut Forest, there have been an average of 200 WPA men working.

In the field of forest improvement, 250 acres of forest woodland has been treated by weeding, pruning and underbrush clearing.

Four water-holes have been built in the area and a well at the administration buildings, which will serve for fire control as well as for sanitary purposes. Fifteen natural springs have been stoned up and covers placed upon them. In this period a new road has been opened which bisects the area from north to south and work has been started on another which, when completed, will quarter the area. These 2 sections comprise approximately 2 miles of road which open the area for fire fighting and for future recreational developments. In conjunction with these roads, it was necessary to build 2 bridges, 9 culverts, 2,000 feet of fence and 3,000 feet of stone wall.

A combination building, 16 feet by 30 feet, for storage and public toilets, was built at the forest headquarters.

Martha's Vineyard State Forest

Due to the fact that there is no tractor on the forest, no work has been done on the fire-stops this past year; but 6 miles of secondary roads were brushed out and made passable for fire apparatus. Six miles of main roads were maintained, 2 miles of secondary roads widened and a rock-base fill constructed at Little Pond to facilitate reaching water with the new fire truck which was delivered to the forest in May. Aid was given at only 1 fire which was in April and on the adjoining island of Chappaquidick.

No planting was done in the spring; although 32 acres of plantations were released and 1 acre of an old plantation was given its initial pruning. One-quarter of an acre of tip moth-infested pitch pine was cut and burned. During the early summer, 30 man days were spent on pine weevil work on private plantations and 10 days on State plantations. Four days labor was used pulling ragweed in conjunction with an island-wide campaign to rid the island of the weed.

Minor repairs, such as shingling and painting were made at the foreman's house.

Mohawk Trail State Forest

The use of the picnic and camping area was not as great as in previous years. This was, in part, due to the presence of men from the CCC camp carrying on construction work in the recreational area and partially due to the fact that the swimming pools have so filled with silt that swimming is impossible. The establishment nearby of resorts with cabins and cafés has probably had some effect on the attendance at this forest camping ground.

Mohawk Trail State Forest

Emergency Conservation Work S-37

Although this camp was credited to the Mohawk Trail Forest, about half of the work was done within the limits of the Savoy Mountain Forest. The reconstruction of Black Brook Road, commenced the previous year, was completed. This road, formerly steep, narrow, dangerous and impassable during the winter and spring, was widened by the blasting of ledges, given a good gravel surface and protected by a substantial guard rail. It is now a safe road to travel on at almost any season of the year. The Chickley River Road was extended to a water hole on the Hawley town line. The Trent Brook Road, a forest truck track, was built as far as the New England Box lot. The closing of the camp in October prevented the completion of both of these roads.

The wildlife area was fenced in, food strips planted and some stream improvement work carried out.

A gypsy moth crew from this camp scouted large areas in Savoy, Hawley and Plainfield.

Mohawk Trail State Forest

Emergency Conservation Work SP-6

Todd Mountain Road from the CCC camp through the cabin area was widened and improved as also was the Sullivan Road on the north side of Cold River from

the lower bridge to the camp. The 3 dams in Cold River were strengthened and improved by the addition of a masonry facing on the lower side. The log administration building was substantially completed by this camp before it was closed in October. Sewage disposal tanks and some minor construction needed to finish the structure were made by a crew from Camp SP-12 in the Savoy Mountain Forest during November and December.

A gypsy moth crew from this camp covered about 20,000 acres in Charlemont and Monroe.

Mount Grace State Forest

The Gulf Brook picnic area was used by more than 1,000 persons. The two-man crew policed this area, repaired the latrines, brushed out the ski and hiking trails on the mountain, installed a new water system and built a new bridge over Gulf Brook.

Myles Standish State Forest

During the winter and early spring, wood was cut, hauled and split for use on the picnic areas. The men from this forest spent about 2 weeks at Shawme Forest assisting the crew there in repairing the headquarters house, which was damaged by fire, and another week at Nickerson Park, Brewster, operating the tractor-grader, shaping up the road built by the CCC camp. Several loads of shrubs and other plant material were taken to the Flower Show. The spring was occupied in road maintenance and fire-fighting. This crew helped extinguish 21 fires, only 2 of which were on the forest and these were small. The new tank truck demonstrated its value at the great Plymouth fire, as did the new radio system. Constant 2-way communication was maintained between the tower, the Plymouth fire station and the chief's car.

During the summer season, the recreational areas at College, Fearing and Charge Ponds were filled to overflowing as the following record of attendance (71,000) attests:

Picnic parties	35,000	Fishermen	3,000
Bathers	20,000	Hunters	700
Campers (tent)	10,000	Cabins (rented)	300
Campers (permanent)	2,000		

Ten additional fireplaces were built and new wells driven at Fearing and College Ponds.

In September, this forest was the meeting place of the third New England Forest Fire Conference, with about 150 in attendance.

After the close of the recreational season in November, the crew released 50 acres of pine plantations.

Myles Standish State Forest

Emergency Conservation Work S-56

During the winter some 400 acres of dense pitch pine reproduction was thinned and similar treatment given to 75 acres of mixed sprout oaks and pitch pine. During the spring a portion of this area was underplanted with 87,000 trees, principally white pine. At the same time 147,000 red pine and 71,000 white pine 2-year seedlings were transplanted into the nursery. Gypsy moth scouting was carried out over 140 acres and this work was supplemented in the summer by spraying around the recreational areas. During the summer all white pine plantations covering 1,700 acres were inspected for weevil and infested tips destroyed. No signs of blister rust infections were found. Road work was limited to the construction of 4 miles, largely in the form of improvements to existing roads, eliminating bad grades and curves. To increase the recreational facilities, a cedar log bath-house was constructed at Fearings Pond, septic tanks installed in bath-houses at Fearings and College Ponds and two new wells dug. Sixteen additional fireplaces and 13 wooden tent floors were installed to care for campers. At headquarters 2 storage sheds 20 ft. by 60 ft. were made from lumber salvaged from the abandoned CCC camp, SP-10.

Game management included the clearing and planting of 16 acres of food strips and the setting out of a considerable number of food-bearing shrubs. It also included the construction of 5 piers on the shores of Barretts Pond for the benefit of fly fishermen.

One water-hole fed by natural springs was constructed. Only one small fire occurred on the forest but the camp contributed 312 man days to fighting fires in Plymouth and Wareham.

Oakham State Forest

Work on this forest was limited to brushing out about 5 miles of forest roads and making a few minor repairs.

October Mountain State Forest

The principal task of the crew on this forest has been the maintenance of the 15 miles of roads within its boundaries, including such work as brushing roadsides, cleaning culverts, hauling gravel and scraping. During the past winter, considerable time was spent in yarding out cordwood cut by the CCC camps, so that it could be sold, and also hauling out logs to the mill to be sawed into lumber for the use of the Department. Building repairs were confined to the reconstruction of a piazza on the mountain house and the tearing down of the old French place, so-called. The maintenance of the picnic area at Whitney Park required 120 man-days, while patrol for fire protection and game law notations used 77 man-days. Felton Lake was stocked with black bass, much to the pleasure of the fishermen, who enjoyed the sport. The forest had many visitors in the form of picnickers, hunters and fishermen but there were relatively few campers.

October Mountain State Forest

Emergency Conservation Work SP-28

This camp during the year completed the 3 log cabins on Felton Lake with the exception of a water and sewerage system, and also built a log shelter on the Appalachian trail. Road work included the completion of the Schermerhorn exit road, 1 mile in length, and the completion of about 1 mile of the reconstruction of the Bicycle Road, so-called. Forest stand improvement covered 140 acres and was mainly a liberation cutting in mixed hard and soft wood stands. About 25,000 feet of lumber and 400 cords of wood was the product of this cutting. On the wildlife area grid lines were cut 400 feet apart and 150 "No Trespassing" signs made and posted. This camp used 1,800 man-days in tearing down the abandoned camp at Bash Bish State Forest.

October Mountain State Forest

Emergency Conservation Work S-93

The Old County Road, which connects the Mountain Brook Road with a "chapter 90" road leading to Becket, has been constructed as double track, rock base, gravel surface for 2 miles. Only 1.5 miles remain to complete this main thoroughfare through the forest. On the Mountain Brook Road, a dangerous condition has been corrected by the construction of 4,000 feet of log guard rails. Five water-holes of the indirect filling type with capacities of 5,000 to 12,000 gallons were constructed. This camp has been outstanding in the amount of forestry work accomplished, having carried out 450 acres of weeding and improvement cutting operations, with a resulting product of more than 1,000 cords of wood. In their forestry work can be included 4 experimental and demonstration plots, 4 miles of roadside thinning and 240 acres of *ribes* eradication. About 2/3 of the forest has been surveyed for the forest inventory.

Otis State Forest

The Beartown Forest crew carried on the essential maintenance of the picnic area at Spectacle Pond. Forest roads are badly in need of maintenance work but the lack of suitable equipment such as a tractor and grader has made such work

impossible. Fishing conditions in Spectacle Pond were not good and only a few hundred anglers tried their luck.

Otter River State Forest

During the winter the 2 men regularly stationed on this forest cut wood to be used at picnic areas in the summer. During stormy weather they worked on building repairs and painted 2 rooms in the headquarters house. In the spring, a latrine was built at Beaman Pond, several new fireplaces built and other preparations made for the summer recreational season. During the spring, this crew helped control 5 fires, none of which was on the forest. In the meantime, 3 additional men were added to the forest crew to attend to the nursery during the spring and summer. These men dug 169,000 trees for shipping, transplanted 169,000 and weeded the 300,000 transplants growing in the nursery. During the summer, the entire time of the regular crew was devoted to policing the picnic areas at Beaman Pond and Priest Brook. A rough estimate places the use of these grounds as follows:—

Campers	1,000	Picnic parties	3,000
Bathers	5,000	Fishermen	500

In the fall, the superintendent and 1 man worked on forest roads and trails.

Peru State Forest

During the summer week-ends, a man from the October Mountain Forest was detailed to look after the picnic area and swimming pools on the Hinsdale road. Only about 400 people are recorded as using the area but actually the use was much larger because many people were on the area when no caretaker was present. Although the forest roads need considerable repair, a number of cars essayed the drive to Garnet peak to enjoy the view.

Petersham State Forest

Emergency Conservation Work 8-62

On 75 acres of cut-over land slash was piled and burned and in the spring, 80,000 red and white pine and spruce were planted.

Pittsfield State Forest

Emergency Conservation Work SP-23

Improvements were made to the Berry Pond Road by the construction of stone gutters and the addition of 6 new culverts. The Parker Brook Road, south from Berry Pond, was completed for a distance of 500 feet. At Berry Pond a parking space for 25 cars was started but not completed. The Park entrance road to Lulu Brook bridge was resurfaced and 3 additional culverts nearly completed. The stone arch bridge at Lulu Brook is nearing completion. This camp tore down abandoned Camp SP-8 but preserved and improved the old administration building by covering it with waney-edge hemlock siding and laying a hard pine floor. The ski lodge at the park entrance, a frame building covered with waney-edge hemlock and having 2 stone chimneys and fireplaces, is practically complete. A 10,000-gallon cement reservoir, to furnish water for the recreational area, is complete and a 2,000-foot pipe line dug but the pipe has not been laid. Forest stand improvements, including thinnings and weedings resulting in the production of 400 cords of wood, were carried out on 125 acres. Planting was confined to the setting out of 10,000 spruce on open land.

Sandisfield State Forest

The picnic grounds at York Lake, one of 7 such areas which are cared for by 3 men comprising the crew on the Beartown Forest 8 miles distant, was used by 1,000 picnickers and 800 bathers. In addition, 4,000 fishermen took 3,600 trout from the lake. A spring, near the picnic area, was boxed to provide a sanitary water supply. Logs cut by the CCC boys, were hauled to a sawmill and the lumber shipped to Westborough, to be made into picnic tables.

Sandisfield State Forest

Emergency Conservation Work S-71

The closing of this camp has resulted in some unfinished work. All roads, 4.5 miles, on this main block are complete. The road on the Karlson Lot is usable for 1 mile, leaving .25 miles incomplete. On the Hartshorn Lot, a road was cut and partially stumped. The principal project of this camp has been the completion of 2 ski trails on East Mountain Forest, Great Barrington, one 4,000 feet and the other 3,800 feet in length. A spring was developed for water supply purposes and 2 latrines built. The Appalachian Trail, across East Mountain, was cleared out for 4 miles.

Forest stand improvement included pruning 10 acres of pine plantations, releasing 20 acres of natural and planted pine and thinning 33 acres. At Sandisfield 50 acres were cleared for planting and at Otis 35 acres. These areas were reforested in the spring. A crew from this camp extinguished 1 fire in Sandisfield, which burned 25 acres.

Savoy Mountain State Forest

Emergency Conservation Work S-94

Work was continued this year on the Florida Road and this project is now completed with the exception of some graveling on certain sections. Altogether 6 miles of this road was completed during 1937. This is a 16-foot, rock-based gravel road and is the main approach from the Mohawk Trail into the Savoy Mountain Forest.

One new water-hole on the Bannis Hill Road was constructed, to replace a water-hole near the same location which was completely washed out. This water-hole is built to one side of the brook and should not wash out. It retains 18,000 gallons of water.

Bog Pond Dam was completed during this year. It has been one of the more important projects in this area. This dam has created a pond of about 35 acres and contains approximately 150 million gallons of water. In the construction of the core-wall and spillway of this dam, 3,000 bags of cement and 4,000 pounds of reinforcing steel were used. The dam is about 18 feet above the bed of the brook and is about 180 feet long. The core-wall goes down to solid foundation, in some places 12 feet below brook bed.

Along recreational lines, the picnic area at Gulf Brook was improved considerably. The dam at the bathing pool was repaired, fireplaces added and the entire area was cleaned up and was used very extensively during the past summer.

The forestry work for the past year consisted of improvement and liberation cutting. The improvement cutting covered 3 different projects on 188 acres. These stands were less than 30 years old on the average. The object was to develop stands of mixed hardwoods and spruce and to improve the quality and composition. The favored hardwoods consist of white ash, beech, sugar maple, white birch, yellow birch and red maple.

Liberation cuttings were accomplished on 55 acres. This operation consisted of the removal of logging culls left by former operators and wolfish trees that were interfering with better forest growth.

Gypsy moth work has been carried on in the towns of Shelburne and Buckland. About 1,950 acres of woodland have been scouted. All infestations found in these towns have been burlapped and in the more serious infestations, some selective thinning has been done. About 45 acres have thus been cleaned and thinned.

Savoy Mountain State Forest

Emergency Conservation Work SP-12

Owing to the fact that this camp was assigned the task of finishing up work left by other Fire Service camps closed in western Massachusetts during the year, it did not accomplish as much at Savoy as it might otherwise have done. Its major task at Savoy was placing a concrete toe at the foot of the Tannery Pond Dam. Further work was done on the log cabins at South Pond and two old cottages torn down. Road work included the building of 3 miles with stone base and gravel surface and resurfacing 2 miles of town road with a heavy coating of gravel. A small amount of fire hazard reduction and timber stand improvement work was done.

Shawme State Forest

During the early winter, the men were engaged in making repairs to the headquarters house damaged by fire. Later in the winter, they released some 300 acres of pine plantation. During the spring, the time was largely spent at the nursery, digging 217,000 transplants, 155,000 of which were planted on the forest by a CCC crew from Camp 56, and transplanting 125,000 seedlings. The principal work, during the summer and fall, was an attempt to maintain the roads constructed by the CCC Camp. With no equipment, except one old truck, this proved a slow job at best. In addition, roads and telephone lines, at the Barnstable, Bourne and Falmouth fire towers, were brushed out, infested weevil tips on white pine plantations removed and help given to the District Forester in making surveys of new property. This crew assisted in extinguishing 9 fires in 4 towns on the Cape, none of which were on the forest.

Shawme State Forest

Emergency Conservation Work S-56

A crew from the Plymouth camp planted 130 acres of land with 155,000 Scotch pine transplants from the local nursery on the forest.

Another crew demolished the buildings used by abandoned Camp S-52 and salvaged the lumber.

Shutebury State Forest

Emergency Conservation Work S-62

About 5 acres of natural pine badly suppressed by gray birch were released by cutting out the birch.

Spencer State Forest

The plantation on the Bemis Lot of 30 acres was released and 2 acres of an 18-year-old plantation of red pine on the Chestnut Hill Lot thinned and pruned. Along all the forest roads some 8 miles of brush was cut and essential repairs made. With the aid of a crew from the Brimfield CCC Camp, a headquarters building was started at Howe Dam and is about three-fourths completed.

The recreational area at Howe Pond was used by 5,000 people about equally divided between picnickers and bathers. There were 1,976 permits issued for trout fishing in the pond and 1,235 trout were caught.

The forest crew assisted in extinguishing 7 fires, fortunately none of them on State land.

Spencer State Forest

Emergency Conservation Work S-60

A side camp from Camp S-60 has helped in constructing, near Howe Pond on this forest, a small five-room residence for the Forest Supervisor.

Sutton State Forest

Emergency Conservation Work S-85

This camp was charged with the completion of projects left unfinished by the closing of the Sutton Camp. This included the completion of Purgatory Trail .7 miles and the placing of log gates at either end. In addition, slash left from a logging operation on the King Lot was piled and burned. This lot will be planted in the spring of 1938.

Tolland State Forest

The picnic areas at Farmington River and Otis Reservoir have been cared for by the superintendent of the Beartown Forest and his 2 men and have proved very popular, considering their remoteness. Some 5,000 picnickers and 500 bathers used these areas. There is great need of a bath-house and additional parking space at Otis Reservoir.

Tolland State Forest

Emergency Conservation Work S-73

The closing of this camp in October resulted in several unfinished jobs. The Belden Road around the south and east sides of Otis Reservoir was completed for 2 miles, leaving .5 miles unfinished. The road up to the fire tower on Nyes Hill was scarcely more than started. At Otis Reservoir recreational area, additional parking space was constructed, a road built to the camping area and .25 acres of beach cleared and improved. At Otis Forest, this camp constructed a pool and fish trap below the dam at Spectacle Pond. Some additional fireplaces and parking spaces were added to the Farmington River picnic area. Silvicultural work included weeding 165 acres, liberation cutting 20 acres, improvement cutting 74 acres and salvage cutting 420 acres.

*Tolland-Granville State Forest**(Granville Section)*

The regular crew on this forest, which consists of 2 men only, during the winter released and pruned 15 acres of pine plantations and constructed 6 small shelters to house firewood at the picnic areas. The spring was devoted largely to road repair work, cleaning gutters and culverts and the installation of 2 additional culverts. Some 6 miles of roadsides were brushed out and an equal mileage of trails. Rooms in both the Superintendent's house and the Grannis house were papered and painted.

The picnic areas were used by about 4,000 people, while about 1,000 people bathed in the pool in Halfway Brook. This forest is especially attractive in the laurel blossoming season.

Hubbard River was stocked with 300 brown trout and fishing was very good. Some rainbow trout, measuring 13 to 15 inches were caught. Game conditions were not so good, birds in particular being very scarce.

Townsend State Forest

Emergency Conservation Work S-82

Two water-holes, one located near the camp and one on the Brookline road, were constructed during the year. One hundred and thirty-five acres were cut and cleared for planting and 30 acres were planted with red and white pines and spruce. Liberation cuttings were made on 6 acres. In the wildlife area grid lines were brushed out, 3 acres of food and cover planting done and 2 miles of stream developed.

Upton State Forest

Emergency Conservation Work SP-25

The work of this camp during the past year was divided between reforestation, fire-hazard reduction, wildlife management and recreational developments. Because of the fact that this area was severely cut over before being acquired by the Commonwealth, it has been necessary to clean up slash on 370 acres of land. For this same reason, reforestation is an important problem and this camp planted 126,000 trees in the spring, white pine, red pine, spruce and larch. Timber stand improvement work was done on 85 acres. Over 1,000 acres were scouted for gypsy moth and 1,000,000 egg clusters treated.

As this is a Park Service camp, its major activities are on recreational lines. Two miles of park road have been completed and an additional mile partially completed. On Old Knob, a picnic area with 10 fireplaces and a parking area for 25 cars have been established. Work was commenced on the construction of a dam on Pratt Pond Brook.

A large fire, starting in the town dump, burned about 150 acres of land on this forest.

Wachusett Mountain State Reservation

Emergency Conservation Work SP-13

This camp has completed 2 ski trails on Mount Wachusett, a novice run $1\frac{1}{4}$ miles long and an intermediate run $\frac{5}{8}$ miles long, each being from 35 feet to 60 feet

in width. At the base of these ski trails is a stone lodge with 2 large fireplaces for the use of the skiers.

Warwick State Forest

Emergency Conservation Work 8-86

The Wilson Road 2 miles in length was completed and the Page Road also 2 miles long was partially completed.

Some 200 acres of cut-over and partially cut over land was cleared of slash and the area so cleared was planted with 300,000 transplants, red pine, white pine and spruce. Sixty acres of natural pine reproduction were liberated. The different forestry operations produced 300 cords of wood.

Warwick State Forest

Emergency Conservation Work 8-92

The winter work of this camp comprised thinning and improvement cuttings on the Beech Hill, Leason Martin and Thompson lots. Approximately 200 acres were treated, resulting in the production of 620 cords of wood and 22,000 feet of logs. On the Thompson Lot thinning was followed by pruning of crop trees. In the spring 11,000 trees were set at Gale Meadow and 24,000 pine and spruce were planted on the Petersham Forest. Before the camp closed in May it was possible to finish up the recreational work at Mount Grace, especially the ski trails, shelter, and parking area.

Wendell State Forest

The crew of 2 men on this forest spent the winter largely in yarding out logs cut by the Wendell and Northfield OCC camps on the Wendell, Petersham and Warwick forests and hauling them to a neighboring sawmill. Spring and summer were spent in road repairs and brushing, helping to police picnic areas at Mount Grace and scouting pine plantations for weevil. This crew assisted in fighting fires in Montague, Ludlow and Prescott.

Wendell State Forest

Emergency Conservation Work 8-62

Road construction included the completion of the Carlton Road for about .3 miles to a junction with Dearth. A new concrete and timber bridge was built over Saxon Brook. Five gates were placed at the end of track trails so that at times, when fire hazard is high, the public can be excluded from certain parts of the forest. A water-hole with a capacity of 8,000 gallons was built on the Jerusalem Road. Forestry work included the clear cutting of 14 acres of gray birch on the Bear Mountain block and on this area 14,000 red and white pines were set out. In addition, 30 acres more of mixed gray birch and poplar badly infested with gypsy moths have been prepared for planting next spring. Seventeen acres of pine plantations were liberated and 52 acres of woodland received an improvement cutting. The combined cutting operations resulted in the production of over 1,000 cords of wood. Four demonstration plots were laid out and treated. One of these is to be planted with Asiatic chestnuts to test the hardiness of this species in this climate. Gypsy moth scouting was carried on over 725 acres. Four tons of sphagnum moss and 100 bushels of pine cones were collected and sent to the Amherst nursery.

While Mount Sugar Loaf is not a part of this forest, attention should be called to the work of this camp in building an auto road up the mountain, a distinct engineering feat, as the mountain is very precipitous. The road is a mile long and its construction involved the moving of 5,000 yards of earth and 10,000 yards of rock, the latter requiring the use of 3½ tons of dynamite to do the necessary blasting. Owing to the closing of the camp, the gravel surfacing was not completed.

West Brookfield State Forest

One mile of road was brushed out and a few pines cut to provide lumber for the headquarters building at Spencer. A heavy infestation of gypsy moths called for the spraying of 25 acres with arsenate of lead.

Willard Brook State Forest

During the winter the larger part of the time was spent in cutting, hauling and working up fuel wood for use at the fireplaces and cabins during the summer. In addition a 4-acre stand of pine was pruned and slash burned. Considerable time also was consumed in gathering material for the Department's exhibit at the Flower Show in March. The recreational season started about May 1, and from then until October practically the entire time of this crew was spent in taking care of the large number of people estimated at more than 75,000 who frequent this lovely forest. Thirty-one camping and 8 trailer parties used the camping area, while the log cabins were rented by 84 parties.

Willard Brook State Forest

Emergency Conservation Work S-82

The principal accomplishment of this camp during the past year has been the completion of the Damon Pond bridge and dam. The bridge is a structure with stone abutments and steel and concrete slab floor. The dam, which is of concrete construction, 110 feet in length and 22 feet in height, creates a swimming pool about 1 acre in area. On the south shore of this pool a beach and bath-house have been built. At Trap Falls Brook, a levee has been constructed to keep the brook from overflowing into the picnic area. Two latrines with connecting foot bridges and 19 fireplaces have been built. Six parking areas have been enlarged but parking space is still a major problem on this forest, made difficult by reason of the crowds of visitors and because the State highway occupies most of the available space.

Road construction included the relocation of .7 miles of the Blanchard truck trail and an addition of 1 mile to the Richardson trail.

Forestry work included weeding and improvement cuttings on 267 acres and the planting of 64 acres with red and white pines and spruce. Sixty bushels of white pine cones were collected and sent to Amherst nursery for extraction of seed.

Windsor State Forest

Emergency Conservation Work SP-12

Although this camp is located on the Savoy Mountain Forest, a large portion of its work was done on the Windsor Forest, finishing up the projects left uncompleted by the abandoned Windsor camp on the Westfield River recreational area. In the first place, the abandoned camp was razed and the area occupied by it was turned into an attractive tenting area by grading and putting in fireplaces and tent floors. As a result of the 1936 flood, some damage was done to the Westfield River dam and the beach at the swimming pool. Repairs were made to these structures which we hope will prevent a recurrence of the injury. All that remains to complete this project is the construction of a bath-house.

Wrentham State Forest

Development work was carried on in this forest from April 1 to September 15, and was as follows: 1,000 hemlock, 1,260 food and cover shrubs and vines were planted and 36 *malus floribunda* (bob white) were started from seed. Two acres in small patches were planted to clover, millet and soy beans, and 14 acres of white pine were released.

Fire lanes to the length of 2,430 feet were graveled, completing Bear Swamp Trail. Boundaries were re-run and grid lines straightened, recut, and markers prepared and placed. Research in brush swamp improvement was started by clear cutting a plot 100 feet square.

A study of Buteo hawks as an offset to the numbers and activities of Accipiters (smaller predaceous hawks) was planned and will be carried on next year.

TOTAL ACREAGE OF STATE FORESTS, RESERVATIONS, PARKS AND LOTS

<i>Name of Forest and Location</i>	<i>Acreage</i>
Arthur Warton Swann (Monterey)	986.75
Ashburnham (Ashburnham, Gardner, Westminster)	1,795.55
Barre (Barre, Rutland)	642.96
Bash Bish (Mount Washington)	390.08
Beartown (Monterey, Great Barrington, Lee, Tyringham, Stock- bridge)	7,999.23
Becket (Becket)	456.
Billerica (Billerica)	367.72
Boxford (Boxford, North Andover, Middleton)	574.18
Brimfield (Brimfield, Monson, Wales)	3,057.82
Campbell Falls (New Marlborough)	2.6
Carlisle (Carlisle)	21.94
Chester-Blandford (Chester, Blandford)	2,643.25
Clarksburg (Clarksburg, North Adams)	2,801.1
Colrain (Colrain, Heath)	1,268.42
Conway (Conway, Williamsburg)	1,716.12
Daughters of the American Revolution (Goshen, Ashfield)	1,237.15
*Douglas (Douglas)	3,404.1
East Mountain (Great Barrington, New Marlborough, Sheffield)	1,524.56
Erving (Erving, Northfield, Orange, Warwick)	5,408.92
Federation of Women's Clubs (Petersham)	990.55
Foxborough (Foxborough, Wrentham)	809.72
*Franklin (Franklin, Wrentham)	869.29
*Freetown-Fall River (Freetown, Fall River)	6,593.04
Georgetown-Rowley (Georgetown, Rowley, Boxford, Ipswich)	1,069.01
*Harold Parker (Andover, North Andover, North Reading, Middle- ton)	2,902.48
Hawley (Hawley, Plainfield)	4,052.45
Hopkinton (Hopkinton)	108.
Hubbardston (Hubbardston, Phillipston)	1,106.87
Huntington (Huntington)	441.
Leominster (Leominster, Princeton, Sterling, Fitchburg, West- minster)	3,293.18
*Lowell-Dracut (Lowell, Dracut, Tyngsborough)	901.07
Marlborough (Marlborough)	173.
*Marthas Vineyard (Edgartown, West Tisbury)	4,472.75
Middlefield (Middlefield)	403.6
Mohawk Trail (Charlemont, Hawley, Savoy, Florida)	5,746.16
Monroe (Monroe, Rowe, Florida)	4,237.98
Mount Grace (Warwick)	1,223.82
*Myles Standish (Carver, Plymouth)	10,909.87
Nantucket (Nantucket)	133.
New Salem (New Salem)	70.
Northfield (Northfield)	398.98
Oakham (Oakham, Rutland)	1,013.73
October Mountain (Lee, Lenox, Becket, Washington)	14,188.99
Orange (Orange)	59.
Otis (Otis, Becket, Sandisfield, Tyringham)	3,835.15
Otter River (Winchendon, Templeton, Royalston)	1,882.51
Oxford (Oxford)	28.7
*Peru (Peru, Middlefield, Worthington)	2,185.61
Petersham (Petersham, Athol)	626.91
Pittsfield (Pittsfield, Hancock, Lanesborough)	3,850.48
Rehoboth (Rehoboth)	152.03
Royalston (Royalston, Orange)	842.65
*Sandisfield (Sandisfield, New Marlborough)	3,923.09
Savoy Mountain (Savoy, Florida, Adams, North Adams)	10,641.15
*Shawme (Bourne, Sandwich)	8,622.53

<i>Name of Forest and Location</i>	<i>Acreage</i>
Shutesbury (Shutesbury, New Salem)	1,202.56
*Spencer (Spencer, Leicester)	1,016.45
*Sudbury (Sudbury, Hudson, Stow, Marlborough)	650.3
Sutton (Sutton)	599.26
Templeton (Templeton, Hubbardston)	640.62
Tolland-Granville (Tolland, Granville, Otis, Blandford)	4,857.25
Townsend (Townsend)	2,713.49
Upton (Upton, Hopkinton, Northbridge)	2,587.08
Warwick (Warwick)	4,526.25
Wendell (Wendell, Orange, Montague, New Salem)	6,356.23
West Bridgewater (West Bridgewater)	251.99
West Brookfield (West Brookfield)	132.
Westminster (Westminster)	342.45
Willard Brook (Ashby, Townsend, Lunenburg)	1,430.8
Willowdale (Ipswich, Topsfield)	1,902.65
Winchendon (Winchendon)	177.5
Windsor (Windsor, Savoy)	1,616.43
Worthington (Worthington)	225.
*Wrentham (Wrentham, Plainville)	1,075.26
Total	171,360.37

*Includes takings.

State Reservations

Salisbury Beach Reservation (Salisbury)	519.96
Standish Monument Reservation (Duxbury)	25.

State Parks

Robinson State Park (Agawam, Westfield, West Springfield)	995.07
Roland C. Nickerson State Forest Park (Brewster)	1,707.

State Owned Lots

Taken under the Reforestation Act of 1908

Flint (Andover)	45.5
Brochu (Attleboro)	24.25
Crocker (Barnstable)	32.
Smith (Barnstable)	27.
Town of Berkley (Berkley)	12.
LeClear (Brewster)	18.
Baker (Bridgewater)	58.46
Sherman (Tower Lot—Brimfield)	.1
Fiske (Buckland)	85.
Dewar (Carlisle)	40.
Vaughan (Carver)	5.
Crowell (Dennis)	20.
Crowell (Tower Lot—Edgartown)	15.
Tower Lot (Essex)	7.
Perry (Falmouth)	18.
Estabrook (Fitchburg)	7.
Lawrence (Fitchburg)	27.
Churchill (Freetown)	9.
Clark (Holden)	50.
Holmes (Kingston)	14.
Jones River Village Club (Kingston)	132.
French (Lancaster)	82.18
Parker (Lancaster)	32.75
Cadwell-Glazier (Leverett)	90.13
Pond (Leyden)	61.

<i>Name of Forest and Location</i>	<i>Acreage</i>
Herrick (Lynnfield)	7.
Perry (Medfield)	37.17
Rhea (North Andover)	44.
Stone (North Brookfield)	37.
Clark (Paxton)	45.
Cadwell-Allen (Pelham)	22.
Leonard (Raynham)	16.
Killam (Rowley)	24.25
Sohier (Rowley)	7.12
Estabrook-Ewell (Rutland)	64.51
Holway (Sandwich)	24.
Weeks (Sandwich)	20.
Davis (Shelburne)	42.5
Ballou (Shirley)	18.
Pierce-Gurney (Taunton)	29.
Jacobs (Wellfleet)	8.
Crowell (Yarmouth)	21.
Simpkins (Yarmouth)	74.
Total	1,452.92

REPORT OF THE FORESTER IN WESTERN MASSACHUSETTS

The following is a report of the work covered by the West Springfield Office of the Division of Forestry during the fiscal year ending November 30, 1937.

The activities of this office have been similar to those of last year, including forestry on State forests and Extension Forestry. Forestry on State forests was confined largely to Civilian Conservation Corps work. The supervision of certain forests having no CCC camps was also assigned to this office. The service classified as Extension Forestry covered a diversified field.

The District Forester continued to act as State Inspector of the CCC camps on the Robinson State Park, the Pittsfield State Forest and the Hawley State Forest. The camp on the Robinson State Park also performed forestry projects on the Granville State Forest and the Hawley camp worked on the D. A. R. State Forest. The latter camp was abandoned in April and the projects on the Hawley Forest were discontinued, but essential work on the Lower Highland Lake dam on the D. A. R. State Forest was performed by the Leominster camp, SP-14, and the Savoy camp, SP-21. Arrangements were made to finish the uncompleted work on the D. A. R. Forest and to continue the forestry projects on the Granville State Forest. The work accomplished on the Robinson State Park and the State forests mentioned above is covered in detail under their respective headings in the report of the Division of Forestry.

In connection with the routine of this office, the technical personnel in the CCC camps were assisted in various phases of forestry; talks were given to camp groups; and speakers on conservation subjects were secured for camps.

There were more requests for sets of the four colored maps compiled by the District Forester in connection with his survey and study of the October Mountain State Forest wildlife area. These have come mostly from colleges giving wildlife courses. Copies of the report, originally accompanying the four maps, were not distributed.

The 2,000 members of the Pittsfield Sportsmen's Club have shown an interest in the proposed development of the Pittsfield State Forest wildlife area. This project, containing fourteen separate operations, is the first wildlife project in Massachusetts to be approved in its entirety by the National Park Service.

The Northeastern Forest Experiment Station had a forester at this office for several weeks taking data from the sample plot notes collected when the original forest type surveys of the State forests were made by this office. This information is to be used in formulating a plan for the silvicultural treatment of woodlands with a view to assist in the control of the gypsy moth.

Under the classification of Extension Forestry, individuals, organizations, schools and communities have sought advice and cooperation on various subjects. Requests have come for information on the care of ornamental and shade trees, the identification of insects and diseases, the building of outdoor fireplaces, the construction of swimming facilities and the establishment of plantations. Fifty persons in the four western counties each ordered from 1,000 to 8,000 trees for field planting. Already four applications for general examinations of lands were received for next year. Organizations concerned with forestry or its phases were helped by membership on committees or were given desired information. A new organization added to the present list is the Western Massachusetts Winter Sports Council. Schools were supplied with materials for class work and for exhibits. Several cities and towns in the western district continued their planting programs and some are still working on WPA forestry projects. The number of talks given and examinations made is included elsewhere in the general report of this division.

The WPA forestry project on the West Springfield watershed, started last year under the guidance of the District Forester, was terminated in the spring of this year. Thinnings, releasing of plantations and fire hazard reduction were completed on a fair-sized acreage within the watershed. Lack of funds for transportation of men prevented the continuation of this project.

The supervisor of the WPA State Planning Project, Conservation Studies, was provided with land-use data and maps to be incorporated in studies of individual towns in the western part of the State. The District Forester's office also was able to cooperate with local planning boards.

In March this Department had an exhibit at the Recreational Conference at Massachusetts State College. This office installed a typical State forest tenting site with a tent, fireplace and picnic table set in a grove of conifers and hardwoods. To the rear of this, the Division of Fisheries and Game showed game birds, fish and a fully equipped hunter's cabin. The exhibit was visited by several hundred during the three-day session.

In May the District Forester had charge of a small exhibit at the annual meeting of the State Federation of Women's Clubs, at Swampscott. Three thousand women attended this meeting and it was apparent that many have a real interest in conservation. Several hundred pieces of literature and individual maps of State forests were distributed to them.

In September the annual forestry exhibit at the Massachusetts Building, Eastern States Exposition, West Springfield, was planned and constructed by this office. This exhibit occupied the entire north wing of the building. The subject of the exhibit was the work of the several branches in the Division of Forestry. Nurseries were shown by a section of a forest tree nursery with its beds of 2, 3 and 4-year white pine, a model of a seed bed and frame and tools employed in the nursery. Recreation on State forests was portrayed in miniature. Hillsides formed the background, with streams and lakes in the foreground. Small dolls representing people were participating in the contrasted summer and winter activities: picnicking, tenting, bathing, hunting, fishing, hiking, skiing and snowshoeing. Forest Management was depicted by a miniature group showing "before and after" planting, releasing and improvement cutting. The advantages of pruning were stressed by full-sized white pines showing trees to prune and trees not to prune and, further, how and how not to do the pruning. Cross sections of harvested trees gave the effects of good and bad pruning. Lantern slides telling the story of the forest completed the Forest Management section. The forest Fire Prevention section of the exhibit contained a realistic forest fire scene on a mountain slope, a power pump with other tools used in fighting forest fires, a model of a forest fire observation tower and posters. Moth Control had for its center piece a small spreading oak with groups of gypsy moth egg clusters on its trunk and brown-tail webs attached to its branches. A hollow tree, tin can, old shoe, automobile tire and other discarded articles also harbored egg clusters that conveyed the necessity for close observation in scouting for gypsy moths. Specimens in cases showed the life history of the gypsy moth, brown-tail moth and parasites. Tools used in the control of the moths completed the exhibit. It is estimated that about 98,000 people visited the forestry exhibit during the week of the exposition.

In October this office set up an exhibit at a one-day council meeting of the State Federation of Women's Clubs at Hotel Kimball, Springfield. A talk on the work of this department was given to the Conservation Committee. Five hundred women attended the council meeting.

REPORT OF THE STATE FIRE WARDEN

MR. ERNEST J. DEAN, *State Forester*.

Sir: In compliance with the provisions of section 26, chapter 48 of the General Laws, I submit herewith a report of the work accomplished by this branch of the division during the past year.

Early in the year the employees in this branch of the service were relieved of a large amount of outside activities and given an opportunity to devote the major portion of their time to forest fire work. Inasmuch as during the past four years our time has been devoted largely to Emergency Conservation Work and only such time as was actually necessary to the prevention and suppression of forest fires we welcome an opportunity to again devote our energies to what I consider the most important part of the State forestry and recreational program; namely, the protection of the State's 3,500,000 acres of forest lands.

Our records show a very favorable year although we had several fires deliberately set. On May 4 three incendiary fires occurred in Plymouth burning over an area of nearly 4,000 acres and while all available equipment in the adjoining towns together with State equipment was in use the high wind and inflammable area made the fire impossible to control until late in the evening. It is estimated that over one million dollars' worth of residential holdings that were in direct line of the fire were saved. Two lives were lost in this fire, Henry Devitt, age 20, and Herbert R. Benton, age 38, both residents of Plymouth. A report on file at the office of Chief of Police Russell Dearborn of Plymouth gives the following information:—

The body of Benton was found by Officer Leo Murphy, at 4:05 P.M. at a point 1.8 miles west of Whipple's place on the old Sandwich road. All clothing was burned off except part of shoes and hat. A key and whistle were found near the body. Body viewed by Medical Examiner Dr. William E. Curtin.

On May 5, 1937, at 6:15 P.M. the father of James Henry Devitt reported to Chief Dearborn that his son had been fighting fire May 4 and had not returned home. Chief Dearborn immediately organized a searching party and found the body one-half mile south of the main gate to Symington estate and about 300 yards in, off the east side of the Sandwich road. Found by George Lemoine of Plymouth.

The town of Plymouth has given the families of both men a lump sum of \$200 each and is paying them each \$50 per month for the next two years.

During the afternoon of May 10, 18 fires were set by the roadside in the towns of Wareham, Bourne and Falmouth burning over about 1,500 acres. The party setting these fires was apprehended and is now serving time.

Forest warden reports show 2,066 fires burning over an area of 22,249 acres with a cost to extinguish of \$34,509.31 and a damage of \$39,291.99.

During the winter months we assembled two 1½-ton fire trucks each equipped with a power take-off, 200-gallon pump and one 40-gallon portable pump, 250-gallon Booster tank, 4,000 feet of 1-inch hose and 500 feet of 1½-inch hose together with carrying racks and small equipment. One truck was assigned to Martha's Vineyard and is located on our State forest and one at Stoughton in Norfolk County. The truck formerly located at Stoughton has been transferred to Bristol County and is located at North Dighton. This will be replaced next year with one of our especially designed fire trucks.

We also assembled two ½-ton pickup patrol cars equipped with front-end power pumps, hose and small equipment and they are in service throughout Barnstable County.

During the early spring the County Commissioners of Plymouth County requested a joint patrol for that county and a pickup truck was assigned for the

work. This was equipped with small equipment but will have a power pump installed for next spring patrol work. I expect that a second patrol car will be placed in operation in this county for use during the coming year. These three patrol cars will be equipped with radio for future use.

The months following our spring fires are devoted largely to the construction, repair and painting of observation towers and the rebuilding of telephone lines leading to them.

This summer and fall our men erected a new 68-foot tower at Acushnet replacing the old 40-foot tower thereby giving us a much greater range of vision covering a large area that we were unable to see from the old tower.

They also repainted and repaired the Bourne, Middleboro', Fall River and Holbrook towers and made extensive repairs on the Sandwich, Foxborough, Falmouth, and Barnstable towers and completed the Ludlow tower.

We experienced a rather severe drought during the entire month of August but owing to the heavy green foliage we had very few fires covering a small area.

On September 9-10, 1937, the New England Third Annual Forest Fire Conference, sponsored by the Forest Fire Committee of the New England Section, Society of American Foresters, was held on Cape Cod with headquarters at Plymouth, Massachusetts. Ernest J. Dean, Commissioner of Conservation of the Commonwealth of Massachusetts, was general host to the Conference.

The meeting opened at ten o'clock on the morning of the 9th at the headquarters of the Myles Standish State Forest. Delegations from New York, New Hampshire, Vermont, Connecticut, Rhode Island and Massachusetts were present. Maine was not represented due to acute forest fires in that state.

The forenoon was devoted to the demonstration of various types of forestfire equipment, particularly the new tank trucks developed for use in the Cape region, and the short wave radio which has been proved of inestimable value in forest fire work.

At one o'clock the Conference sat down to a Cape Cod shore dinner served at the State Forest recreation area at College Pond. Much interest was shown in this recreation area by those present.

After the luncheon the party motored to Plymouth where they were the guests of the Plymouth Cordage Company Works.

In the evening a very pleasant banquet was held at the Samoset Hotel in Plymouth with Assistant State Fire Warden John P. Crowe serving with his usual eloquence as toastmaster. Mr. Crosby A. Hoar, Federal Inspector from Washington, one of the distinguished guests gave a very interesting talk on matters pertaining to the Clarke-McNary law.

At nine o'clock on the morning of September 10 the Conference gathered on the boulevard at the Plymouth Rock and from there motored to the Shawme State Forest. En route they had the opportunity to see parts of the big Plymouth fire which occurred in the spring of 1937. At the Shawme State Forest two types of cement water holes were shown the party. From there the group traveled to the big Military Reservation in Sandwich and Bourne and made a short inspection of same. Leaving the Military Reservation the party motored to the scene of a bad fire in Mashpee where District Warden Crowell gave a blackboard talk relative to the methods used in the extinguishment of that fire. From there the group traveled through the Shawme Forest to headquarters where a buffet lunch was served.

After lunch and an inspection of headquarters, the Conference drove to the Maxim Motor Company's plant at Middleborough by way of Sagamore and Buzzards Bay. This gave many of those attending the Conference a chance to see the Cape Cod Canal and the new bridges.

We have again had the cooperation of the personnel and CCC boys in the Emergency Conservation Work in the various camps throughout the State. Our reports show that they have rendered very valuable assistance in the extinguishment of 55 fires. The CCC camps in the State have been reduced from 55 in 1935 to 19 at the present time and this has reduced the number of boys in the camps from approximately 11,000 to 3,800 at the present time, thereby reducing the number of boys available for forest fire work.

Through the efforts of our field force we have gone through the year with no

second-day fires of any importance. This is certainly a credit to the department as the majority of our serious fires in the past have been second and third-day fires that were absolutely uncalled for and caused largely by inefficiency of the men in charge.

While we have a large number of towns equipped with trucks and power pumps especially adapted for forest fire use it is pleasing to note the increasing number of wardens who see the necessity of such equipment and are adding a special piece for this work. I cannot urge too strongly the importance of such a piece of small equipment for each town suitable for building and forest fires. Invariably equipment of this type pays for itself the first time it is in use.

Many additional towns have taken advantage of the so-called Reimbursement Act during the year. This act provides for reimbursing towns with a valuation of \$1,750,000, or less, a limited amount on the purchase, replacement and upkeep of forest fire fighting equipment and has a tendency to stimulate interest throughout the poorer towns in the purchase of such equipment.

It was necessary for the State Forester to discontinue the issuance of permits throughout the State from April 27 to May 31 inclusive in order to prevent the large number of fires from this source getting beyond control.

The various forest wardens' organizations throughout the central and eastern part of the State have continued to hold monthly meetings that are largely attended and are very instructive. We have 9 of these organizations made up of about 1,500 members interested in forestry, fire prevention and suppression and they are certainly a very distinct asset to this department. Field day meetings were again held during August at the Acton Fair Grounds, Harold Parker State Forest, Andover and Fairhaven. They were all largely attended and provided a real day of recreation for the organizations, members and their friends. I desire to express to the officers and members of these organizations our sincere appreciation of their cooperation and loyal support given us in carrying on our work.

Mr. Albert R. Ordway, Westfield, Massachusetts, who has been associated with this department as District Fire Warden for 24 years, retired April 27, under the Veteran's Retirement Act. Mr. Ordway was a very conscientious and faithful employee and no man could be more familiar with western Massachusetts or take a more active interest in the work of this department than did Mr. Ordway.

Mr. Raymond T. O'Connor of Westfield, who has been associated with the department for several years, was promoted to fill the vacancy pending a civil service examination.

Last year we installed two-way radios in the towns of Plymouth County but owing to the installation being made during the spring fire season we did not have an opportunity to give the system a fair trial. However, these together with several mobile units were used during the entire fire season this year and in addition radios were installed in the Falmouth and Barnstable towers and the results obtained from these various stations and mobile units were very satisfactory. The towns of Plymouth and Falmouth installed two-way radios in their fire stations as well as their own mobile units with exceptionally good results.

An appropriation of \$3,000 was made for radios in certain Worcester County towns and these will be installed for service this coming spring.

Mr. Crosby A. Hoar, Washington, D.C., Federal Inspector for the New England states, devoted about three weeks during the summer to making a study of fire prevention and suppression throughout the State. On two occasions he was accompanied by U. S. Forest Service men especially interested in our power fire-fighting equipment and water holes, as Massachusetts being one of the leading states in this line, the Forest Service was desirous of gaining all information possible in order that it might be passed along to other states that were desirous of improving their suppression activities.

The Federal cooperation under the Clarke-McNary Act has been very satisfactory, but it is very essential that the Federal appropriation be increased materially if we are to receive any substantial amount for use in this State. We urge that it be increased to the amount specified in the Clarke-McNary Act, thereby increasing our allotment to about \$40,000. The allotment received for the present year was \$24,722.

The continued cooperation of the State Police is appreciated and their services at serious fires are most valuable.

I desire to take this opportunity to extend to my associates in the work my sincere appreciation of the fine cooperation they have always shown in the work.

The following tables show the comparative damages, costs, etc., for the past three years.

Respectfully submitted,

M. C. HUTCHINS,
State Fire Warden.

FOREST FIRES FOR THE PAST THREE YEARS

<i>Year</i>	<i>Number of fires</i>	<i>Acreage burned</i>	<i>Cost to extinguish</i>	<i>Damage</i>	<i>Average acreage per fire</i>	<i>Average damage per fire</i>
1935	1,996	25,338	\$47,169.00	\$101,777.00	12.69	\$50.99
1936	1,466	13,192	26,866.00	45,952.56	9.00	31.35
1937	2,066	22,249	34,509.31	39,291.99	10.76	19.60

TYPES OF CLASSIFIED DAMAGES

	<i>1936</i>	<i>1937</i>
Standing trees, merchantable	\$21,226.00	\$14,062.00
Standing trees, not merchantable	11,599.00	16,113.15
Brush land	5,187.56	980.00
Lumber and cordwood	2,075.00	896.00
Buildings and improvements	5,865.00	7,240.84
Total	\$45,952.56	\$39,291.99

TYPES OF LAND BURNED OVER (ACRES)

	<i>1936</i>	<i>1937</i>
Timber	2,797	4,674
Timber, not merchantable	3,987	7,595
Brush land	5,662	7,435
Grass land	746	2,545
Total	13,192	22,249

FOREST FIRES FOR THE YEAR 1937

<i>Months</i>	<i>Number of fires</i>	<i>Acreage burned</i>	<i>Cost to extinguish</i>	<i>Damage</i>
<i>1936</i>				
December	13	7	\$70.89	\$2.00
<i>1937</i>				
January	17	14	24.20	—
February	240	529	1,056.23	723.50
March	496	1,671	3,502.33	3,360.09
April	502	6,773	7,616.57	12,506.50
May	393	12,267	15,570.29	20,381.40
June	31	26	363.91	24.50
July	106	182	2,317.19	379.50
August	102	136	2,252.08	158.00
September	13	11	72.46	400.00
October	72	393	899.22	884.00
November	81	240	763.94	472.50
Total	2,066	22,249	\$34,509.31	\$39,291.99

CLASSIFIED CAUSES OF FOREST FIRES, 1936-1937

	1936		1937	
	Number	Per cent	Number	Per cent
Railroad	215	14.67	95	4.59
Smokers	328	22.37	363	17.58
Unknown	275	18.76	668	32.33
Brush	114	7.77	193	9.34
Incendiary	90	6.14	122	5.91
Children	131	8.94	253	12.25
Other causes	313	21.35	372	18.00
	1,466	100.00	2,066	100.00

REPORT OF CHIEF MOTH SUPPRESSOR

MR. ERNEST J. DEAN, *Commissioner*.

Sir: I respectfully submit herewith annual report on the suppression of the gypsy and brown-tail moth.

There were 393,613 acres of woodland which had some degree of defoliation from 25 per cent to 100 per cent in 1937, compared to 152,469 acres in 1936. Several factors entered into this unusual amount of defoliation. The abnormally mild winter, causing a 100 per cent hatch, was followed by a very favorable feeding season. Then, too, much rain was experienced during the spraying season, which diluted the poison to some extent.

This defoliation occurred in all sections of the State, the largest increase occurring in Norfolk County. The greatest decrease was in the eastern section of Cape Cod.

There were about 400 acres defoliated in the western part of Northampton. This is the farthest point west where defoliation has occurred since records have been kept. The woodland defoliated consisted mostly of low value growth where colonies have been increasing for a term of years until they became numerous enough to cause defoliation.

Owing to the large area of woodland, lack of funds, time and equipment, little can be done in the woodland towards suppressing the moths.

The legislature of 1937 amended the moth law by Chapter 415, to include the tent caterpillar. This will necessitate additional work and expense. The legislature failed to appropriate the additional amount of \$20,000 as requested by the Department, neither did they amend the law so as to increase the towns' liabilities. As the act did not become a law until May 29, 1937, no effort was made to do any work in suppressing this insect.

The brown-tail moth work was again sponsored by the Bureau of Entomology, Greenfield, Massachusetts, under a WPA project supervised directly by Mr. J. N. Summers. The various division superintendents supervised the project in their respective divisions. About 350 men were engaged from November, 1936, to June 30, 1937. There were 779,405 brown-tail webs destroyed. This was an increase of 152,189 webs over the previous year. The greatest number were found in Haverhill on the large elm trees, which fact increased the cost of operation.

Brown-tail webs were found in the entire eastern half of the State from Worcester to Provincetown, and from Salisbury to Fall River.

In addition to the destruction of the webs many thousands of favored plants, such as apple, pear, wild cherry and white oak, were removed. This project was of great benefit to the 245 cities and towns as they bore no part of the expense.

The forest tent caterpillar continues to cause considerable trouble by defoliating the State highway trees, especially in Berkshire County.

The canker worm also is prevalent in this county, but showed a marked decrease in the eastern part of the State.

European willow beetle was prevalent in all sections of the State.

Satin moth, Oriental moth, and fall web worm were less numerous than last year.

WPA moth projects, employing about 3,000 men during a period from 2 weeks to 6 months, were operating in 157 cities and towns out of 322. Most of these

projects were suspended on June 30, 1937. At the present time about 35 cities and towns have WPA projects in operation, 1,275 men being employed.

There has been no report of Dutch elm disease having been found in Massachusetts up to date.

Summary of conditions in the various divisions follows.

Respectfully submitted,

H. B. RAMSEY,
Chief Moth Suppressor.

Division 1—Walter F. Holmes, Division Superintendent

In Plymouth County the defoliation was very extensive but a marked increase of woodland infestation was noted in Hingham, Cohasset, Rockland, Whitman, Abington and Brockton where conditions have been good over a number of years. Other towns, with the exception of Plymouth, also showed heavy woodland defoliation.

For the most part in the residential sections the shade trees and woods roads were in reasonably good condition having been creosoted and sprayed.

Both the gypsy and brown-tail moth projects did effective work and considerable tent caterpillar work was done.

Elm beetles, canker worms and satin moths were not very destructive, and other conditions were quite satisfactory.

In Barnstable County heavy defoliation was noted in the woodland areas in the Towns of Bourne, Falmouth, Barnstable, Harwich, Wellfleet and Truro. Other towns had more or less defoliation but not the increase as noted in the above mentioned towns where nesting conditions this fall show the same marked increase.

The residential sections are in good condition, no defoliation being noted as they were thoroughly creosoted and sprayed.

The WPA operations for the most part came too late to do much effective work. The brown-tail work was completed, and much good work was done in destroying tent caterpillar nests. Other insects were not very much in evidence.

General conditions have not materially changed during the past few years.

In Dukes County the towns of Tisbury, West Tisbury and Chilmark are badly infested, and extensive woodland defoliation was noted in Tisbury, with less defoliation in West Tisbury and Chilmark. Much of this was caused by canker worms. The other towns on the island are lightly infested or not at all, and no defoliation was noted. WPA operations were quite effective and financially were of great assistance. Considerable private cooperation was obtained and the outlook for next season is very bright.

In Nantucket County there is no known infestation on the island outside of the town of Nantucket and this has shown no increase over a number of years. Tent caterpillars are plentiful, and some elm beetle feeding was noted. As a whole conditions are satisfactory.

There is some infestation on the Islands of Naushon and Nashawena, but none on Gosnold, and no defoliation was observed.

Division 2—C. W. Parkhurst, Division Superintendent

There has been a very decided change in the gypsy moth situation in this division, the increase being from about 60,000 acres defoliated in 1933 to 166,000 acres this past summer.

The largest percentage of increase occurred in Norfolk County, where we had been for the past 2 or 3 years, with a few exceptions, quite free from heavy defoliation. The increase in this county was from 13,283 acres in 1936 to 80,093 acres in 1937.

The town of Needham was the only one in this division without defoliation. The city of Quincy and the town of Milton suffered no defoliation outside of what was evident in the Blue Hills Reservation. These municipalities have equipment, and appropriate sufficient money to do the work well. Some of the other towns have come far short of money enough to do the work which should be done.

The tent caterpillar situation was much improved, with probably a 75 per cent decrease in webs.

There was also an improved elm beetle condition generally, and very few fall web worms, also no noticeable satin moth or canker worm infestations.

Division 3—M. H. Donovan, Division Superintendent

There was a large increase in gypsy moth infestation in Division 3 this past summer, over 1,000 acres being totally defoliated and many thousands of acres fed upon at a ratio of 25 per cent to 75 per cent. Nine towns showed defoliation while 8 towns showed feeding in general but not above the 25 per cent ratio.

The Newburyport Turnpike which divides this division seems to be a common carrier for the gypsy moths. Heavy infestation is in evidence on both sides of the pike from the Rowley line to the Malden line.

There have been countless thousands of broken egg masses seen in this division, also soft egg masses which demanded careful treating with creosote brush to avoid pulling egg masses from bark. The foliage also showed more egg masses than were ever seen before.

A decided decrease in fall web worms is noticeable throughout the whole division.

Elm leaf beetle is quite bad in 6 towns.

Canker worm is bad in most of the towns.

Oriental moth shows a decrease.

Parasitism of cocoons also shows a decrease especially where they were the heaviest, Winthrop, Nahant, Swampscott, and Revere.

The oak skeletonizer, which was very bad in 1935, covering 30 square miles on the North Shore, is much lessened, in fact a great decrease throughout the district was noted.

The beech scale is increasing steadily especially in Beverly, Essex, Manchester and Gloucester.

The larch case-bearer and the pine leaf scale were common, and all the willows were hard hit by the spittle bug.

The *pales* weevil is in evidence in several places.

Many species of parasites were noted in all heavily infested localities, also many of the *Calosoma sycophanta* beetles and larvae, but very little wilt disease is seen.

Only one CCC camp is located in Division 3; this is in Saugus where several hundreds of acres of woodland were creosoted in the Breakheart section.

North Shore Woodlands:

There is a decided increase in the gypsy moth infestation. More egg masses are in evidence than for many years past, and one white oak in Boulder Lane is carrying at least 1,000 egg masses.

No brown-tail moths have been seen for several years past.

A few tent caterpillars could be seen, but there were no elm beetles, fall web worms or satin moths.

The oak skeletonizer which was found plentifully over 25 square miles a few years ago is practically gone now.

We have managed to keep the gypsy moth under control for the past 20 years by creosoting in the fall and carefully spraying the bad spots, but it looks as though we are in for a fight on this moth during the coming season, as they have come back in great numbers.

Division 4—John E. O'Doherty, Division Superintendent

The gypsy moth infestation in this division has shown a large increase in the past year over the previous year. In 1936 there were 3,944 acres more or less defoliated as against 8,536 in 1937.

Of the 34 cities and towns, Amesbury, Georgetown, Lowell and West Newbury show a decrease in the number of acres defoliated.

During the past year the WPA brown-tail moth project crew rendered considerable assistance in reducing the brown-tail infestation, collecting and destroying a total of 483,213 webs. In addition 25 local moth crews in their respective cities and towns cut and burned 26,542 webs. There were 9 other towns scouted but no webs found.

Tent caterpillars show a large increase over the previous year. Elm leaf beetle showed an increase over last year. Fall web worm conditions show an improvement over the previous year. Satin moth conditions are good, only 2 towns showing more than light feeding. Canker worm is not numerous but noted to be feeding particularly heavily on the elms in a few towns. Willow beetle was plentiful in nearly all cities and towns.

On November 30, WPA projects for insect control, employing 74 men, were in operation in Groveland, Stoneham and Lowell. With very few exceptions the cities and towns in Division 4 have submitted WPA projects for insect control, and some of these projects have been approved and dates set to begin operations.

Division 5—F. W. Marshall, Division Superintendent

The gypsy moth infestation shows a large increase in this division this year. In 36 cities and towns defoliation was noted running from 15 acres to 2,325 acres, making a total for the division of 22,146 acres as against 5,984 acres in 1936. There is a marked increase in egg deposits showing this fall, the mild winter and favorable weather conditions this past spring being favorable for large hatches and extensive feeding. Limited funds did not allow for the necessary woodland work by most cities and towns.

From January, 1937 to June, 1937 there were 34 WPA crews engaged in creosoting and some spraying in the woodlands. A total of 837 men was employed on this work during this period. On the whole the results from these projects were very doubtful as all these men were taken from the relief rolls and knew nothing about the work. It would seem that these projects reached their objective in the employment of relief workers. At the present time there are 10 projects in operation in this division employing 287 men under the WPA and better results from this work are anticipated.

Crews working under the direction of the United States Department of Agriculture did a very careful scouting of 40 localities for brown-tail webs, and cut and destroyed 28,711 webs as against 13,129 in 1936. In addition to the scouting these crews did a large amount of cutting of favored food plants of the brown-tail moth. A total of 4,385 apple, cherry, pear, oak and elm trees were cut, and also 66 acres of wild cherry brush was removed. Some of the wood from the trees removed was given to welfare cases in cities and towns. This project was carefully supervised and operated very efficiently.

Satin moths are very much on the increase, and were noted in 24 localities as against 15 in 1936.

The elm beetle was very destructive in some places but decreased in others, and on the whole is just about as numerous as in 1936.

The forest tent caterpillar was not as destructive this past year.

The orchard tent caterpillar was more plentiful this year than it has been for some time, and in many places roadside brush is badly in need of cutting to keep this insect down.

The canker worm showed a marked decrease this past year, and careful and constant spraying has reduced this pest.

Fall web worms were very few, and noted in only a few localities.

Spraying and creosoting of the State highways is becoming a problem, especially where there are large areas of woodland bordering the same that are not cared for. However, the necessary creosoting and spraying was done this past year with the funds available.

Division 6—Harold L. Ramsey, Division Superintendent

A large increase in stripping during 1937 is evident in this district, where a total of 23,715 acres can be compared to 4,050 acres in 1936. Only 3 towns of 64 escaped heavy feeding, namely: Monson, Wales and Warwick. Increase was fairly evenly distributed over the rest of the division. Several heavily infested areas are bound to cause trouble next season unless the involved towns appropriate increased funds to do additional creosoting.

At the present time there are no WPA moth projects in operation in this division and none in prospect. Twelve towns have winter creosoting projects under con-

sideration. Delay in starting can be blamed to one thing in every case, that is desire to complete all other projects. Eighteen towns had gypsy moth projects during the past season, and approximately 75 per cent of the district was scouted by Federal brown-tail projects.

It is safe to forecast an increase in brown-tail moths for this division this year, especially as there are no Federal projects in view. The general tendency to reduce appropriations for all moth control work is also an added handicap.

The forest tent caterpillars and elm tree beetles showed a slight increase in Westborough. Tent caterpillars were numerous throughout the division while the canker worms showed a decrease.

Division 7—Grover C. Twiss, Division Superintendent

All gypsy moth work in Berkshire County is done by the United States Department of Agriculture as that part of Massachusetts comes within the Barrier Zone which is maintained by that Department.

The forest tent caterpillar did a lot of damage to the rock maples in the vicinity of Adams, Pittsfield, and other towns in this area, whole side hills being from 25 per cent to 100 per cent stripped of their foliage.

The canker worm was very bad again this year. A few large poplars just east of Pittsfield were completely defoliated.

No brown-tail moths were found.

The elm leaf beetle, fall web worm and orchard tent caterpillar conditions were about the same as last year.

FEDERAL GYPSY MOTH AND BROWN-TAIL MOTH WORK IN MASSACHUSETTS—1937

By A. F. Burgess

The area of gypsy moth defoliation in Massachusetts during 1937 was considerably more extensive than it was in 1936. The total woodland area in 1936, showing slight to complete defoliation, was 152,469 acres; while, in 1937, a total of 393,000 acres were partly or totally defoliated. For most of the territory east of the Connecticut River, with the exception of the Cape Cod district, the increase in acreages of defoliation over 1936 was considerable and, for most of the counties, the totals were higher than ever recorded. In the Cape Cod section the defoliation was much less extensive than has been previously recorded. In the territory immediately east of the Connecticut River the increase in the size of the defoliated areas was very noticeable.

Under an allotment of WPA funds, control work was carried on against this insect in the Barrier Zone area in Berkshire County. In addition to work in the Barrier Zone, a large amount of control work was done in portions of the counties lying west of the Connecticut River, namely, Franklin, Hampshire and Hampden Counties. Most of this work has been confined to woodland areas not readily accessible to town forces. These emergency funds were instrumental in giving employment to a number of men and a large amount of control work was accomplished.

In addition to work carried on under WPA authorization, a considerable amount of control has been conducted from Civilian Conservation Corps camps located in towns both to the east and to the west of the Connecticut River. Work performed by CCC camp personnel or by men under WPA authorization in territory east of the Barrier Zone has been directed toward decreasing and controlling sizable infestations which, because of their location, might be a source of spread to the Barrier Zone. The CCC camp work, which was carried on in close cooperation with the State Department of Conservation, was confined to woodland areas not readily accessible to town forces. These areas, through lack of funds, were not covered by the local organizations.

The following table gives results of work done under Federal supervision during the calendar year 1937. This includes work done under an allotment authorized by the WPA in Massachusetts, also that done by personnel from several CCC camps.

1. Miles of roadside scouted	1,086
2. Number of woodland acres scouted	264,989
3. Gypsy moth egg clusters destroyed	5,745,152

4. Woodland acres thinned and slash burned	4,380
5. Woodland acres sprayed	1,814
6. Number of trees banded with burlap	1,033,493
7. Gypsy moth larvae and pupae crushed	10,839,154

No severe defoliation by the brown-tail moth in Massachusetts was reported during the summer of 1937, in fact, no defoliation was recorded in any section of the State. This was due to the wholesale cutting of winter-webs during the fall, winter and spring of 1936-37. This work was made possible by an allotment of Federal WPA funds, and was carried on actively from the beginning of the year until about the first of May. A small amount of clean-up work was done from that time until the first of July when work was discontinued. As no new allotment of funds was authorized for brown-tail moth work after July first, this project was discontinued.

From January 1, 1937, to July 1, 1937, the following work has been accomplished under this project:

Number of trees cut (old apple and wild cherry)	61,142
Trees examined	3,797,440
Miles of roadside scouted	8,826
Webs cut	608,206

The satin moth seems to be increasing in some sections of the State. Although no extensive areas of defoliation were reported, in Pittsfield and Provincetown several large Carolina poplars were entirely defoliated.

PART III

The fifth annual report of the Director of Parks is herewith submitted.

Robinson State Park

Through a further gift from Mr. John C. Robinson, 315 acres were added to the Robinson State Park. These lands are in small lots adjacent to the present park and increase the area to 995 acres.

The State Department of Health has examined the water from several sources within the park. The report from that Department shows that the springs to be developed are entirely satisfactory for public use.

Arrangements were made with the Town of Agawam to supply water for the picnic area in the Provin Mountain section of the park. The necessary meter, valves and Henderson box, furnished by this Department, were put in and the pipe line from the picnic area was connected with the Agawam water main. It was necessary that this work be done by the Water Department of the Town of Agawam. The pipe line through the picnic area was installed by the CCC camp.

The athletic field was used during the summer under the direction of the WPA Recreational Supervisor from the Town of Agawam. A pump was set up at a nearby spring. Pit latrines were erected. A backstop was built for the baseball field. Tables and playfield equipment were placed under the trees, and younger children were instructed and amused by staff members. Supervised ball games were played by older boys and men.

The small unimproved beach on the Westfield River adjacent to the so-called "trestle area" has been used as a bathing place for years. During the past summer its popularity seemingly increased and as many as 400 persons gathered here at one time. This would indicate that the proposed improvements in this same area, with unpolluted water for swimming, will make a favorite recreational center for large numbers.

Robinson State Park (Agawam, Westfield and West Springfield)

Emergency Conservation Work SP-24

As this land is strictly a park area, all cuttings are made for landscape rather than for silvicultural results and are hence rather light. About 102 acres have been treated in this way. Ten thousand pine transplants were set out on the land near

the abandoned railroad right-of-way. The entire park was scouted for gypsy moths and 300 egg clusters were found. Fire protection has been taken care of by the construction of 3 reservoirs, which can be used both as water holes and small swimming pools. The Provin Mountain picnic area is practically completed with a parking space for 110 cars, 53 fireplaces and tables and a water supply acquired by connecting 2,000 feet of pipe with the Agawam town main. A comfort station already started will furnish toilet facilities for this area. The Cordes Brook Road has been completed for .6 miles and a start made on the construction of the Westfield River Drive by building a section between the Provin Mountain and Cordes Brook Roads .5 miles in length.

Roland C. Nickerson State Forest Park (Brewster)

Emergency Conservation Work SP-19

The Park Road has been extended for a distance of 1.5 miles. This construction involved the building of 6 culverts and a large amount of sodding of side slopes. In addition 7.5 miles of secondary roads have been built and 2.5 miles of old wood roads brushed out. Fire protection has involved the construction of 6 water holes, 4.5 miles of roadside fire hazard reduction and 150 acres of similar work adjacent to camping areas. On the LeClair Lot of 20 acres, a red and white pine plantation was liberated, while 20,000 white pines and 2,000 hemlocks were set out in the park. Some 500 acres of the park area were scouted for gypsy moth egg clusters and much of this area was sprayed later. As a result of 2 years work of controlling the gypsy moth in this park, the infestation is now very light. Recreational development receives priority in the work of this camp. Two parking areas to accommodate 160 cars have been laid out. In the camping area 25 additional fireplaces and 78 tent floors have been constructed. Two latrines with septic tanks and flush toilets have been built for the accommodation of the picnickers and campers. At Flax Pond the beach has been made ready for the bathhouse which will be started in the spring. The lodge, a building to be used as a combination office and superintendent's quarters, is about two-thirds completed.

Salisbury Beach Reservation

The Salisbury Beach Reservation opened on May 30, 1937, with the following personnel in attendance: superintendent, 1 head life guard, 6 life guards, 10 members of the beach patrol and an ambulance operator and first-aid man. On May 30, during the Merrimack Valley Marathon Race, the ambulance was called upon to make 17 trips to the hospital, conveying runners overcome by heat or exhausted. On June 29, the Amesbury Fire Department requested assistance at Lake Attitash in dragging for the body of Donald Ridlon. Five life guards were immediately dispatched, the body being recovered at 1:30 P.M. The ambulance was called at 4:00 A.M., on July 4, to carry injured persons from auto accident to the Anna Jacques Hospital in Newburyport. On July 17, at 10:30 P.M., the scout ship "Wakefield," caught in a thunderstorm, signaled for help. The coast guard station having been discontinued, assistance was requested by the State Police and at 10:45 P.M., a power boat and 1 life boat put to sea with 5 life guards and first-aid man in charge of the superintendent and at 11:00 P.M., the boat and crew were rescued. On June 25, an emergency call from Salisbury was received for the use of inhalator to aid a child suffering from pneumonia and complications. On August 18, conditions at the Harold Parker State Forest necessitated the services of 1 life guard. This man was sent from the Salisbury Beach Reservation and remained on duty there until the season closed. At 6:30 P.M., on August 16, life guards were called to the Black Rocks section of the Merrimack River to recover the body of Thomas Penney, aged 8 years. The body was recovered within a minute of the arrival of life guards and though an inhalator was used for 1 hour and 35 minutes, the patient was pronounced dead by the doctor called to the case. On August 25, 1 life guard and 2 members of the beach patrol were sent to Simmons Beach to assist during the Simmons day celebration. The above cases show some of the emergency calls made upon the personnel at the Salisbury Beach Reservation and emphasizes the fact that this group of trained life guards not only are maintained for the services of the reservation but are available at all times in a section of Massachusetts where no other such service is available. The first-aid room in the center of the beach front has proved

too small and arrangements have been made to open new quarters much more suitable to the needs of patients. First-aid cases receiving treatment during the season numbered 460. Cases were classified as follows:

Cuts	162	Sprains	24
Burns	67	Sun stroke	1
Rescues	24	Removal of fish hook	2
Bruises	8	Inhalator cases	14
Heat prostration	8	Child birth	1
Shock	2	Particle in eye	1
Insect bites	23	Auto accidents	8
Dog bites	2	Dragging for body	1
Infections	46	Red jelly fish rash	9
Fractures	2	Strain	1
Dressings	10	Rescue boat and party	1
Heat exhaustion	21	Body recovered in river	1

This is the fifth year that the State has maintained this service at this Reservation and no drownings have occurred.

The parking area, on which fees were collected, showed a revenue of \$2,280.30. This parking space employed 2 men full time and 8 men 2 days a week. During the months of July and August 4 men were employed as beach combers.

Classes in First-Aid and Life-Saving were started in June and bi-weekly classes, with an attendance of 650 children, were conducted, in charge of the head life guard and an assistant. All members of the beach patrol were required to attend classes daily at 6:00 P.M. and subsequently passed Red Cross examiners' test. As a result of children's classes, 117 passed Red Cross beginners' examinations, 36 passed Red Cross swimmers' examinations and 16 passed Junior life-saving examinations.

The State reservation at Salisbury Beach was continually under construction during 1937 and has been open to the public during the entire year. Project No. 10288, released through Commissioner Ernest J. Dean, was started October 19, 1936, with the filling and grading of parking areas and adjacent ways.

The first large parking area in the reservation now being developed was filled and gravelled and approximately one-third of the area tar-surfaced. This parking area was opened to the public on May 30, 1937. Roads for trucking sand and gravel were built from salvaged railroad ties and 1,000 to 1,400 cubic yards of sand excavated and placed per day. This area comprises 70,000 square yards. It has been used by thousands of people weekly. Adjacent to this space 1,500 feet of sidewalks have been constructed. More than 2,000 lineal feet of roads, 40 feet in width, have been graded and graveled with salvaged material from a former parking space flooded at high tides.

The trailer park has been one-tenth filled and a small area covered with salvaged gravel. This project has employed a force of from 40 to 146 men for the past year, with the following equipment rented as required: 1 bulldozer, 1 gas shovel, 1 gas roller, 1 grader and trucks.

On March 22, 1937, a project was submitted to the Works Progress Administration for the construction of a combination bath-house and comfort station and an auxiliary comfort station. Plans and specifications accompanied this proposal. This project was approved and put into operation July 19, 1937. As soon as the first building was sufficiently along for the roughing in of plumbing, the plumbers were requisitioned and one man was assigned, no others being available. Five painters were assigned and two coats of paint have been applied. This building is so designed and constructed that it may be moved as a unit or in sections and it is the intent that it will be permanently located on the bathing pool in the camping area until such time as it is replaced by the proposed brick bath-house.

All areas finished are being fenced bumper height, posts and rails being furnished from Harold Parker State Forest. All rough lumber in the bath-house was furnished from salvaged material secured from abandoned CCC camps.

The preliminary plans for the development have been furnished by the Boston Society of Landscape Architects and all construction now contemplated is based on this recommendation, together with plans and specifications furnished by the WPA project No. 4812-BI.

On September, 9, 1937, a hearing was held at Salisbury Beach by the United States engineers. Captain Wayne S. Moore and Mr. Edward J. Murphy, relative to the proposed waterway, anchorage basin and canal from the Merrimack River in Massachusetts to the Hampton River in New Hampshire. This canal, if built, will furnish safe harbor facilities for the steadily increasing number of pleasure craft in this locality.

The location of the narrow beach front of the northern 2 miles of this strip of beach backed by privately-owned cottages, with only 2 State-owned right-of-ways along its whole length presents a difficult maintenance problem. The public have little opportunity to enjoy this section, as it is difficult to find parking room near the entrance to the area. The entire 2 miles are covered by the beach patrol, and life guard service has been maintained for the past 5 years. It is, however, extremely difficult, with a limited personnel, to properly care for some sections of the entire beach frontage, extending a distance of nearly 4 miles. Approximately 250,000 people may often be occupying areas on the southern section of the beach.

During 1937 some additional land was purchased at Black Rocks Point and the old road to this section is at present being changed to an elevation which will prevent the damage previously suffered as a result of the high tides.

The \$20,000 appropriated for projects at Salisbury Beach was to a large extent used for equipment for grading and filling a large area at the south end. Approximately \$2,000 was used to purchase tar and nearly \$3,000 for plumbing supplies and building material for the bath-house.

As this reservation is about an hour's ride from Boston and the whole Merrimack Valley, and inasmuch as the land has been purchased at a cost of over \$300,000, the plans for its development, now being finished, should be carried out as soon as possible. Recreation today is considered the second largest industry in New England, yet, while many of her finest roads are situated in Massachusetts, her recreational spots have been centered in neighboring states. Massachusetts has one State-owned recreational beach at Salisbury. The plans are now completed to make this reservation an outstanding recreational development on the Atlantic coast. The development of this beach should greatly increase the use of highways into Massachusetts instead of through Massachusetts. To the Federal government we are indebted for their aid to the extent of over \$200,000, in carrying on projects for which the Commonwealth had no available funds.

The Department of Public Works deserves commendation for the cooperation given this Department in every instance where advice or assistance was sought. The Department of Public Safety maintains a force of officers here during the summer season and we are grateful to them for the assistance rendered by those members of the State Constabulary who have done much toward the maintenance of order and safety at the reservation.

Standish Monument Reservation

The Standish Monument Reservation at Duxbury has had one of its most successful seasons for many years. It has been estimated that 100,000 people visited this reservation during the summer season. The register maintained at the monument indicates that visitors were present from practically every State in the Union as well as from several foreign countries.

The total receipts at the reservation amounted to \$909.02, and a part of this revenue was the result of the recreation fees collected for the first time this season. Although there was an apparent increase in the number of visitors to the reservation, fewer people actually ascended the monument to the observation tower, as indicated by a drop in the revenue from this source. This was undoubtedly due to the fact that on many days during the summer season, visibility was very limited, and also to the fact that the tendency to climb a long flight of stairs is disappearing in these days of wide-spread motor travel.

Considerable work has been done for the improvement of this reservation, notably the installation of a new water system to facilitate the care of the lawns and shrubbery, and also the construction of several parking areas in order that motor vehicles may in the future be kept out of the picnic grove. Extensive landscape work is under way on the summit of the hill and visitors next summer will be agreeably surprised at the work accomplished under the supervision of Mr. Hans and Mr. Day.

APPENDIX

FINANCIAL STATEMENT OF RECEIPTS AND EXPENDITURES FOR YEAR ENDING
NOVEMBER 30, 1937

Appropriation	Amount	Balances and Credits	Expendi- tures	Balance to 1938	Balance to Treasury
<i>Dept. of Conservation:</i>					
Salary of Commissioner	\$6,000.00	—	\$6,000.00	—	—
Commissioner's Travel	1,650.00	\$9.76	1,658.22	—	\$1.54
Administration—Services	2,130.00	—	2,076.00	—	54.00
Administration—Expenses	2,500.00	—	2,282.85	—	217.15
<i>Div. of Forestry:</i>					
Personal Services	14,800.00	—	14,741.00	—	59.00
Office Incidentals	9,800.00	—	9,797.85	—	2.15
Development of State Forests	171,000.00	2,149.91	173,146.56	\$3.35	—
Suppression of Gypsy and Brown-Tail Moths	50,200.00	373.93	45,830.74	4,743.19	—
Prevention of Forest Fires	70,000.00	15,852.90	85,852.90	—	—
Reimbursement for Fighting Forest Fires	300.00	141.19	141.19	—	300.00
Protection Against Forest Fires	1,000.00	—	999.27	—	.73
Forest Fire Patrol, Barnstable County	2,560.00	—	2,421.24	—	138.76
Forest Fire Patrol, Plymouth County	2,000.00	—	1,561.86	—	438.14
<i>Specials:</i>					
Land for CCC Camps	—	3,356.18	3,347.47	—	8.71
Expenses of Land Purchases	8,896.59	—	4,244.53	4,652.06	—
Information Relative to State Forests	—	140.23	130.73	—	9.50
	\$342,836.59	\$22,024.10	\$354,232.41	\$9,398.60	\$1,229.68
<i>Division of Parks:</i>					
Personal Services	\$7,400.00	—	\$7,397.05	—	\$2.95
Expenses	7,100.00	—	5,827.10	—	1,272.81
Standish Monument Reservation	2,000.00	—	1,955.48	—	44.52
Salisbury Beach Reservation	22,500.00	\$178.61	22,151.65	—	526.96
Claims of Land, Salisbury Beach	2,100.00	—	69.64	—	2,030.36
Sundry Investigations	—	742.35	—	—	742.35
Salisbury Beach, WPA	15,000.00	—	14,992.49	—	7.51
<i>Special:</i>					
Restoration of Old Derby Wharf	50,000.00	—	19,375.40	\$30,624.60	—
Salisbury Beach, Additional Property	—	13,816.93	13,773.65	—	43.28
	\$106,100.00	\$14,737.89	\$85,542.55	\$30,624.60	\$4,670.74
<i>Federal Forestry Fund:</i>					
Prevention of Forest Fires	—	\$21,031.20	\$15,676.77	\$5,354.43	—
Nurseries	—	2,147.92	2,147.92	—	—
	—	\$23,179.12	\$17,824.69	\$5,354.43	—

RECEIPTS FOR 1937

<i>Miscellaneous:</i>	
Sale of Trees	\$4,723.69
Examinations	41.50
Maps and Books	25.65
Use of Telephone	87.17
Income u/w of L. M. Standish	128.85
Refund on Salisbury Beach assessment	10.44
Gypsy Moth Supplies	97.22
Reimbursement from Barnstable County	1,573.56
Forest Fire Supplies	2.30
Receipts at Salisbury Beach	2,480.30 ¹
Receipts at Standish Monument	885.02
Fisheries and Game	12.69 ²
<i>Receipts on State Forests:</i>	
Camp sites	1,959.00
Rents of houses, etc. (inc. bog and land)	1,308.00
Recreation	8,373.47 ³
Lumber, posts, etc.	2,266.78
Christmas trees, etc.	341.75
Berries, hay, etc.	40.50
Old Buildings	15.00
Press brush	261.20
Gravel and Stones	55.00
Damages	238.00
Cordwood	8,282.26
	\$33,209.35

¹ Includes \$200 for concessions. ² \$24 for cordwood sold, included in cordwood sales below. ³ Includes \$200 for concessions.

Financial Statement Verified

Approved:

GEO. E. MURPHY,
Comptroller

STATEMENT OF EXPENDITURES AND RECEIPTS ON STATE FORESTS FOR THE YEAR
ENDING NOVEMBER 30, 1937

Name of Forest	Planting and Nursery	General Upkeep, Fire Lines, Roads	Recreation	Surveying, Titles	Land	Total	Receipts
Arthur Warton							
Swann	\$96.55	\$727.14	—	—	—	\$823.69	\$63.00
Ashburnham	—	1,625.83	—	\$140.75	—	1,766.58	83.37
Barre	—	101.75	—	—	—	101.75	125.75
Bash Bish	—	—	\$50.01	—	—	50.01	—
Beartown	19.00	1,735.45	244.90	220.11	—	2,219.46	1,067.70
Becket	—	—	—	—	—	—	—
Billerica	—	—	—	—	—	—	—
Boxford	—	—	—	—	\$570.00	570.00	—
Brimfield	—	19.45	15.50	22.53	1,200.00	1,257.48	171.50
Campbell Falls	—	—	6.37	—	—	6.37	—
Carlisle	—	100.50	—	71.25	—	171.75	—
Chester-Blandford	—	2,077.87	1,932.47	—	—	4,010.34	783.30
Clarksburg	—	—	—	52.00	—	52.00	—
Colrain	—	—	—	8.00	—	8.00	491.86
Conway	—	—	—	—	—	—	—
D.A.R.	—	1.42	—	1,233.00	100.00	1,334.42	193.00
Douglas	—	94.50	—	20.00	—	114.50	—
East Mountain	—	—	400.82	104.51	120.00	625.33	—
Erving	760.16	1,905.36	692.14	178.00	—	3,535.66	584.75
Federation of Women's Clubs	—	37.85	12.00	23.50	—	73.35	—
Foxborough	—	—	—	145.80	—	145.80	—
Franklin	—	—	—	1.06	89.59	90.65	12.00
Freetown-Fall River	—	7.26	—	542.04	311.90	861.20	200.00
Georgetown-Rowley	—	—	—	117.00	—	117.00	—
Harold Parker	—	3,900.35	3,219.75	4.93	155.00	7,280.03	1,454.95
Hawley	—	14.25	—	—	—	14.25	—
Hopkinton	—	—	—	—	—	—	—
Hubbardston	—	—	—	—	—	—	—
Huntington	—	—	—	—	—	—	—
Leominster	—	98.00	—	12.00	—	110.00	—
Lowell-Dracut	—	3,119.35	—	617.05	—	3,736.40	—
Marlborough	—	152.76	—	—	—	152.76	—
Martha's Vineyard	—	5,017.28	—	6.35	—	5,023.63	100.50
Middlefield	—	—	—	251.86	2,155.20	2,407.06	—
Mohawk Trail	—	668.88	813.24	40.00	—	1,522.12	1,129.34
Monroe	—	351.75	14.00	—	—	365.75	33.20
Mount Grace	—	1,213.55	1,137.29	—	—	2,350.84	298.76
Myles Standish	119.22	4,931.08	2,662.05	156.03	—	7,868.38	5,006.94
Nantucket	—	—	—	—	—	—	—
New Salem	—	—	—	—	—	—	—
Northfield	—	—	—	193.87	—	193.87	—
Oakham	—	135.45	15.75	—	—	151.20	60.00
October Mountain	—	6,318.47	415.00	180.74	—	6,914.21	1,936.18
Orange	—	—	—	—	—	—	—
Otis	—	11.00	53.75	—	—	64.75	388.85
Otter River	1,426.81	2,785.84	1,078.21	52.88	—	5,343.74	344.75
Oxford	—	—	—	—	—	—	—
Peru	—	—	57.50	—	—	57.50	119.50
Petersham	—	22.65	—	43.02	—	65.67	—
Pittsfield	—	—	—	—	—	—	—
Rehoboth	—	—	—	—	—	—	—
Royalston	—	—	—	—	—	—	—
Sandisfield	—	103.13	188.71	69.43	—	361.27	1,099.86
Savoy Mountain	—	228.79	7.00	40.00	—	275.79	1,161.05
Shawme	1,521.36	4,728.49	—	96.93	216.66	6,563.44	70.35
Shutesbury	—	—	—	—	—	—	—
Spencer	—	3,139.50	677.91	14.25	—	3,831.66	176.25
Sudbury	—	251.05	—	—	—	251.05	—
Sutton	—	32.50	—	—	—	32.50	—
Templeton	—	—	—	—	—	—	—
Tolland-Granville	—	2,974.22	685.75	—	—	3,659.97	858.95
Townsend	—	1,242.97	—	20.00	—	1,262.97	5.00
Upton	—	43.25	—	—	—	43.25	80.00
Warwick	—	184.91	—	195.91	250.00	630.82	736.07
Wendell	9.50	1,545.68	—	35.27	—	1,590.45	746.63
West Bridgewater	—	—	—	2.00	588.12	590.12	—
West Brookfield	—	406.25	—	—	—	406.25	—
Westminster	—	—	—	—	—	—	—
Willard Brook	—	2,531.72	1,799.32	128.00	—	4,459.04	2,297.70
Willowdale	—	291.44	—	247.81	—	539.25	185.00
Winchendon	—	—	—	—	—	—	—
Windsor	—	53.75	98.00	—	—	151.75	280.85
Worthington	—	—	—	—	—	—	—
Wrentham	—	697.72	—	3.42	1,650.00	2,351.14	5.00
Total	\$3,952.60	\$55,630.41	\$16,277.44	\$5,291.30	\$7,406.47	\$88,558.22	\$22,351.91

State Lots

	Planting	Upkeep	Recreation	Survey	Land	Total	Receipts
Bridgewater (Baker)	—	\$520.00	—	—	—	\$520.00	—
Sandwich (Weeks)	—	18.50	—	—	—	18.50	—

State Parks

Robinson State Park	—	\$376.56	—	\$1,647.90	—	\$2,024.46	\$125.00
Roland C. Nickerson State Forest Park	—	3,198.03	\$1,054.08	—	\$12.00	4,264.11	640.05

STATEMENT OF EXPENDITURES AND REIMBURSEMENTS OF TOWNS ON ACCOUNT OF
GYPSY MOTH WORK, FOR THE YEAR ENDING NOVEMBER 30, 1937

Towns	1937						1938
	Required Expenditure	Total Net Expenditure	Private Work etc.	Reimbursement	Supplies Furnished	Total Amount Received from State	Required Expenditure
Ashby	\$417.83	\$417.83	\$.70	—	\$177.28	\$177.28	\$417.83
Ashland	1,183.22	1,183.69	—	\$198.00	206.29	404.29	1,183.22
Berkley	345.65	368.88	100.00	685.25	186.83	872.08	345.65
Berlin	428.91	428.91	40.65	—	218.59	218.59	428.91
Bolton	460.83	499.99	*87.97	—	167.45	367.60	460.83
Boxborough	150.01	150.01	—	200.15	301.34	603.74	150.01
Boxford	606.65	665.84	*200.00	302.40	370.71	1,170.71	606.65
Brewster	901.77	906.49	290.40	600.00	312.77	612.77	901.77
Carlisle	445.05	445.05	198.00	300.00	582.17	1,056.90	445.05
Chilmark	283.60	284.95	—	474.73	198.20	1,355.25	283.60
Dennis	1,445.32	1,503.17	117.15	1,157.05	—	—	—
Dunstable	186.07	186.07	*33.00	300.00	412.94	712.94	1,445.32
Eastham	500.32	502.00	192.35	—	—	—	—
Freetown	589.12	590.92	*156.40	300.00	183.91	483.91	186.07
Georgetown	803.33	804.35	23.75	400.00	131.36	531.36	500.32
Halifax	596.90	781.24	109.10	700.00	217.12	917.12	589.12
Harvard	1,040.04	1,040.04	592.95	699.50	777.44	1,476.94	803.33
Hubbardston	312.79	383.32	346.12	—	—	—	—
Lakeville	569.91	587.68	*15.36	302.08	510.22	812.30	569.91
Lunenburg	928.98	928.68	—	300.05	216.24	516.29	1,040.04
Lynnfield	1,614.33	1,614.59	66.43	600.00	186.48	786.48	312.79
Mashpee	367.09	499.21	221.45	—	—	—	—
Middleton	862.37	888.00	*67.44	500.03	488.54	988.57	569.91
Newbury	888.37	888.37	—	400.26	202.38	602.64	928.98
North Reading	1,060.99	1,161.24	280.20	700.22	324.85	1,025.07	1,614.33
Pembroke	1,180.85	1,216.96	61.60	143.51	217.01	360.52	367.09
Phillipston	160.49	170.00	—	724.05	125.55	849.60	862.37
Plainville	661.54	661.54	592.31	450.00	549.68	999.68	888.37
Plympton	303.35	403.90	862.75	500.00	259.06	759.06	1,060.99
Rowley	601.48	602.13	267.50	—	—	—	—
Sandwich	1,126.15	1,159.86	*12.96	—	472.95	472.95	1,180.85
Sherborn	1,004.66	1,004.66	30.00	582.00	—	582.00	160.49
Sterling	795.57	795.57	124.60	690.00	162.68	852.68	661.54
Stow	598.99	598.66	42.75	—	—	—	—
Sudbury	1,211.04	1,450.00	*3.50	400.00	194.75	594.75	303.35
Tyngsborough	660.99	691.39	453.78	—	—	—	—
West Newbury	605.42	604.98	*148.79	649.55	658.44	1,307.99	601.48
West Tisbury	365.43	365.43	—	—	533.57	533.57	1,126.15
			127.27	—	122.07	122.07	1,004.66
			—	97.60	128.60	226.20	795.57
			133.50	—	649.67	649.67	598.99
			—	300.00	164.96	464.96	1,211.04
			243.85	—	—	—	—
			*24.00	423.00	243.31	666.31	660.99
			50.00	499.30	196.38	695.68	605.42
			*28.80	1,141.27	708.80	1,850.07	365.43

*Lead sold.

